FINANCIAL TIMES

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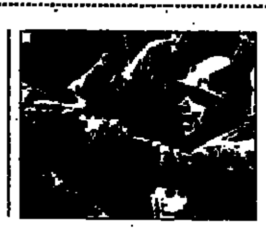
WEDNESDAY APRIL 1 1998

EU enlargement
Proof that Europe has a foreign policy
Lionel Barber, Page 14



Unrest in Russia
Unpaid workers protest but they remain impotent
Page 2

Hungarian elections
Socialists bathe in IMF praise
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WORLD NEWS

Russian parliament presses Yeltsin over choice of prime minister

Russia's left-dominated parliament threatened to block the nomination of Sergei Kiriyenko as prime minister unless it was consulted. A resolution to be debated today calls on Boris Yeltsin to meet the legislature's chiefs to discuss the president's choice of government head. Page 2

Armenian PM wins polls
Armenia's prime minister and acting president, Robert Kocharyan, has beaten his former communist opponent in presidential elections marred by claims of irregularities. Page 3

UK sets up special crime squad
Britain's National Crime Squad, launched today, will be first modern UK police organisation to target serious organised crime throughout England and Wales. Page 8

Turkish prisoners seize guards:
Leftwing prisoners in at least five Turkish jails took more 40 guards and officials hostage in a concerted move to press for the return of fellow prisoners to a western jail.

Germany accepts blame for crash
Germany said one of its Air Force aircraft was the main cause of a collision with a US Air Force freighter off Namibia, southern Africa. The crash last September killed 33 people.

Israel brushes aside US fears
Israeli prime minister Benjamin Netanyahu shrugged off US assessments that Middle East peace moves were in "dire straits". Page 4

Irish talks hit problems
UK prime minister Tony Blair moved to head off a crisis in the Northern Ireland peace talks as differences emerged over proposals for a regional assembly. The latest arguments cast new doubt over whether the talks participants can reach agreement by April 9. Page 8

US harbour tax 'unconstitutional'
The US Supreme Court ruled the Harbor Maintenance Tax, passed by Congress in 1986, unconstitutional. The levy on commercial cargo at US ports yielded millions of dollars in government revenue. Page 5

Malaysia rejects asylum plea
Malaysia said it considered 14 Indonesians seeking asylum in a UN compound in Kuala Lumpur to be illegal immigrants who were to be deported. The Indonesians say they fearpersecution if repatriated.

Zhu leaves for Europe
China's new premier Zhu Rongji flew to Europe for a gathering of European and Asian leaders likely to be dominated by Asia's financial crisis. Before the weekend meeting he will be on an official visit to Britain.

Australia hands over A-test site
More than 270 square miles of Australian land used by Britain for atomic testing in the 1950s and 1960s was restored to its Aboriginal owners.

Cambodia regains control
Cambodia's flag flew over the Preah Vihear temple for the first time in years after Khmer Rouge guerrillas defected to the government.

Karachi explosions kill 3
Three people were killed and 28 injured by three explosions in the Pakistani city of Karachi. India has denied Pakistani accusations of involvement in recent bombings.

Eight to fight Ecuador polls
Eight candidates have registered to contest Ecuador's May presidential elections. In a surprise move, vice-president Rosalía Arteaga resigned so she can run for the Independent Movement for an Authentic Republic party. Page 4

BUSINESS NEWS

Russia's central bank chief seeks rouble devaluation to help exporters

Sergei Dubinin, the governor of Russia's central bank, said the rouble must be gently devalued, in line with inflation, to help Russia's battered exporters compete globally. Page 16

BMW, German carmaker, warned it would cease to supply parts to Rolls-Royce Motor Cars, forcing the temporary closure of the UK luxury car company, if a rival bidder thwarted its attempt to control Rolls-Royce. Page 17

Gazprom and Yuksi, Russian energy companies, warned that the starting price for the sale of the state-owned Rosneft oil group was too high. Page 17

Grupo Minero México, Mexico's biggest mining company, completed the largest Latin American private-sector bond offering since the Asian crisis. Page 21

Fincantieri, Italian state-owned shipbuilding group, reported a 79 per cent fall in annual earnings to L10.7bn ($58.8m) after production difficulties. Page 20

Digital Equipment chief executive Robert Palmer indicated that he was unlikely to remain with the computer group after the proposed merger with Compaq Computer is completed. Page 21

Commerzbank of Germany has hired more than two dozen analysts and traders in London for its investment banking operation. Page 20

Liffe, the London International Financial Futures and Options Exchange, plans to change its governance structure in a drive to improve decision-making. Page 17

Schindler, of Switzerland, the world's second biggest maker of lifts and escalators, expects improved profits in 1998. Page 20

Thailand's central bank tightened provisioning requirements for the country's commercial banks, bringing loan classification rules up to international standards. Page 6

Norske Skog, Europe's largest newsprint supplier, plans to buy a mill in South Korea from Thai forestry group Shin Ho Paper. Page 20

Bank Negara, Malaysia's central bank, said it had secured agreements to consolidate the country's 39 finance companies into eight. Page 6

MD Foods International of Denmark had its future left in doubt following disagreements among shareholders over a planned financial reconstruction. Page 20

Banca Nazionale del Lavoro, Rome-based commercial bank to be privatised this year, reported a consolidated loss of L2,803bn ($1,563m)for 1997, compared with a L151bn profit in 1996. Page 20

Warner Music and Sony Music, two of the world's biggest record companies, plan to create the UK's largest distribution centre for music, videos and electronic games. Page 8

TriStar Pictures, is to disappear following the decision of Sony Pictures to fold the Hollywood studio into its larger Columbia Pictures subsidiary. Page 21

World Equity Markets
The latest trends and data from more than 50 national markets at a glance
Page 35

Oil prices fall after Opec cut

Delegates defend agreement to reduce world supply by 2% but markets remain sceptical amid glut

By Robert Corzine in Vienna

World oil prices fell on doubts that the global production cut agreed early yesterday by the Organisation of Petroleum Exporting Countries would stabilise crude markets.

The bellwether Brent Blend for May delivery hit $14.44 in late trading in London yesterday, down 35 cents from Monday's close.

The market was reacting to a joint move this week by Opec and five non-Opec producers, including Mexico and Norway, to remove around 2 per cent of world supply from today.

A global oil glut recently sent prices tumbling to nine-year lows, threatening to cause havoc to the national budgets of the main oil producing states.

In a seven-hour session that lasted until the early hours of yesterday, Opec oil ministers ratified an agreement to reduce world output by 1.5m barrels a day.

Yesterday Opec delegates put up a spirited defence of Tuesday's agreement. "Those who went short [in the oil futures market] will be lucky in a few days to run away with their clothes on," said one senior Saudi Arabian official.

Delegates also shrugged off yesterday's price falls: "We didn't expect to get much of an immediate positive impact," insisted one Kuwaiti oil official.

"If you remove barrels the price will fall," said Luis Giusti, president of Petroleos de Venezuela, the Venezuelan state oil company. "You have to allow some time."

The cut of 1.5m b/d was at the lower end of the 1.5m-2m b/d range mentioned just over a week ago when Saudi Arabia, Mexico and Venezuela paved the way for the global reduction by signing the Riyadh pact cutting 600,000 b/d. It defused a bitter row between Caracas and Riyadh over Opec oil policy.

Delegates said expectations Opec might try to orchestrate a larger reduction had been misplaced.

They said it had been hard enough to agree on 1.5m b/d, although there were hints of possible additional reductions at Opec's next scheduled meeting at the end of June should the market fundamentals deteriorate further.

They also dismissed speculation that some Opec states might not implement individual national reductions, given the organisation's patchy record of sticking to normal quotas.

"It's all voluntary," said one delegate. "[But] even if we don't see all 1.5m I'm confident we will see the bulk of it."

Although the initial market judgment was negative, some traders said the pessimism was overdone.

They predicted that over time there might be a greater willingness to give the deal the benefit of the doubt.

"Opec got a bit of a bum rap here," said Peter Gignoux, head of the energy desk at brokers Salomon Smith Barney in London. "I'd be surprised to see a bear raid on the market right now."

Opec officials in Vienna said the effect of the Asian crisis on oil demand was still uncertain.

But they said the chaotic situation in Asia that helped trigger the latest price slide had now passed.

In January and early February supertankers had sailed from the Gulf to Asia only to find that by the time they got there buyers had run out of money and could not pay for the contracted cargoes.

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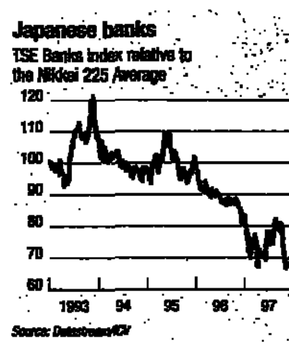
Tokyo 'Big Bang' adds to pressure on banks

By Gillian Tett in Tokyo

Shares in Japan's beleaguered banks fell again yesterday, underlining the severe problems facing the sector as today's Tokyo "Big Bang" ushers in an era of more open competition.

The programme of financial deregulation, launched today, aims to revitalise Tokyo as a global financial centre and boost returns on the country's savings.

But it comes at a time when the banks' weak capital bases have been further eroded by investment losses realised at yesterday's end of financial year. The Nihon Keizai Shimbun, Japan's financial daily newspaper, reports today that the country's 19 largest banks intend to write off or dispose of Y10,210bn ($77.56bn) of bad loans in the financial year just ended. Bad loans in the Japanese banking system have been estimated by the banks to be Y28,000bn, but the ministry of finance has said the broader category of "problem" loans is Y77,000bn.



Two main changes will be introduced today as part of deregulation: foreign exchange controls will largely be lifted; and fixed equity brokerage commissions on deals worth more than Y50m will be liberalised.

The moves could benefit Japanese savers and investors, but they will put the country's banks and brokers under further pressure. As David Atkinson, analyst at Goldman Sachs, the US investment bank, said: "Big Bang means that existing players are going to be net losers until they focus on profitability – that is what the market movements are saying."

Concerns about the capital strength of Japan's banks and their ability to face tougher competition have depressed the sector's shares for several months. They fell nearly 2 per cent more yesterday.

The value of shares in the main retail banks is now at a record low as a proportion of the whole market. The capitalisation of the 10 biggest commercial banks represents only 8.77 per cent of the Topix, the broadest Tokyo stock market index, down from 17 per cent recorded during the peak of Japan's asset bubble in 1987.

Japanese banks' capital strength has traditionally depended partly on the level of the stock market, because they count part of their huge holdings of shares in other Japanese companies as "capital". When the market falls, capital shrinks.

The Nikkei 225, the key market indicator, closed yesterday at 16,527.17, well below the 18,003 level on March 31 1997.

Under previous accounting practices, this would have obliged some banks to record accounting losses on the value of their shares. However, the Japanese government recently changed some of the accounting rules, allowing banks to disguise the blow by recording equities at book, not market value.

But yesterday's closing level of the Nikkei will still place pressure on the banks because investors will estimate the "market" level of equities.

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Banks undermined, Page 19

Palestinian leader Yassir Arafat leaves the Amsterdam house where Anne Frank hid from the Nazis. Some Jewish groups accused him of reopening the wounds of Holocaust survivors. Peace bid fails, Page 4. Picture: Reuters

Vanguard to open funds in Europe

By Jane Martinson and Philip Coggan

Vanguard, the world's second largest mutual fund manager, is to enter the European market with a range of index-tracking funds.

The move by the conservative US company is designed to take advantage of the continent's fledgling defined-contribution pension fund market and the growing interest by investors in passive fund management.

In contrast to Vanguard's US business – two thirds of which is sold direct to the public – its European business will be aimed at company pension plans.

John Brennan, chairman of Vanguard, said: "We are coming to Europe with a family of funds that, we hope, will, in the institutional marketplace, lay the seeds for what we have been able to do at home."

The Pennsylvania-based company, which has assets of $370bn, aims to repeat its success in building a low-cost market niche in Europe. The group is unlikely to advertise. Nor does it intend to expand its marketing team substantially. "There will be no big bang," said Mr Brennan.

Vanguard is rare among large US managers in having failed to set up a European operation.

Mr Brennan said his group decided to expand outside the US only when it was convinced of having a "natural long-term market" and when it felt big enough to do so without disturbing its existing business.

Vanguard expanded outside the US for the first time two years ago with a venture into Australia's pensions market, where it now manages A$3bn ($2bn).

Its European funds will focus on the UK, the Netherlands and Belgium. The average charge for the funds will be between 0.3 per cent and 0.5 per cent.

Steven Mendel, investment adviser at Aon Consultants, said the charges were roughly in line with those of other index trackers for UK pension funds. However, they are far lower than those for UK unit trusts or active managers.

Three new funds, to be registered in Dublin, will track equity indices in the US, Europe and globally, while the group will also offer a cash fund. The operation will be based in Brussels.

Vanguard, founded in 1975 with a mutual structure, closes funds to new investors if they become too large. Its growth has been rapid in recent years – at an annual rate of 35 per cent – as the repeated failure of active fund managers to beat the index has increased the popularity of passive management.

Vanguard warned customers of the risks of a bear market last year. Ironically, the last time it seriously considered moving into the European business was 1987, just before that year's crash.

WORLD MARKETS

STOCK MARKET INDICES		
New York: Lunchtime		
Dow Jones Ind Av	8876.79	(+94.67)
NASDAQ Composite	1839.58	(+20.88)
Europe and Far East		
CAC40	3875.81	(+75.58)
DAX	5102.35	(+92.59)
FTSE 100	5932.2	(+30.3)
Nikkei	16,527.17	(+284.13)
US Lunchtime RATES		
Federal Funds	6%	
3-mth Treas Bills: Yld	5.145%	
Long Bond	102$\frac{5}{8}$	
Yield	5.942%	
OTHER RATES		
UK: 3-mo Interbank	7$\frac{5}{8}$%	(7$\frac{5}{8}$%)
UK: 10 yr Gilt	109.9375	(109.997)
France: 10 yr OAT	104.19	(104.20)
Germany: 10 yr Bund	107.90	(107.92)
Japan: 10 yr JGB	109.48	(same)
NORTH SEA OIL (Argus)		
Brent Dated	$13.72½	(14.26)

GOLD		
New York: Comex		
Apr	$301.1 (Latest)	(301.4)
London:		
	$301.35	(302.75)
EXCHANGE RATES		
Dollar		
New York Lunchtime		
£	1.6743	
DM	1.84965	
FFr	6.1975	
SFr	1.525	
Y	133.255	
London:		
£	1.6746	(1.6774)
DM	1.8494	(1.8446)
FFr	6.1959	(6.1819)
SFr	1.5245	(1.5176)
Y	133.355	(132.14)
Tokyo Close		Y 133.37
Sterling		
DM	3.0969	(3.0941)

Bahrain	Din1.300	Belgium	BFr60	Cyprus	C£1.25
Denmark	DKr21.00	Estonia	EKr34.00	Finland	FmK15.00
France	FFr12.50	Gibraltar	£0.75	Greece	Dr450
Hungary	Ft340	Iceland	IKr225	Italy	L3400
Jordan	JD1.75	Kuwait	Fils 750	Latvia	Lat1.65
Lithuania	Lit20.00	Luxembourg	LFr60	Morocco	MDh18.60
Netherlands	Fl5.50	Nigeria	N[illegible]	Norway	NKr23.00
Oman	OR1.75	Poland	Zl 10.00	Portugal(mainland)	Esc280
Qatar	QR13.00	S.Arabia	SR13.00	S.Africa	R12.00
Spain	Pta275	Sweden	SKr22.00	Syria	SP 90.00
Switzerland	SFr3.80	Tunisia	Din2.000	UAE	Dh13.00

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WORLD NEWS

EUROPE

Legislators press Yeltsin over premier

By Chrystia Freeland in Moscow

Russia's leftwing-dominated parliament yesterday stepped up its game of brinkmanship with the Kremlin, threatening to block the nomination of Sergei Kiriyenko as prime minister unless the government agreed to consult it.

Parliamentary leaders decided that they would debate a controversial resolution today demanding that Boris Yeltsin meet the legislature's chiefs to discuss Mr Kiriyenko, the inexperienced 35-year-old technocrat whom the president has named as head of the new government.

Even the pro-government Our Home is Russia faction, led by the former prime minister, Victor Chernomyrdin, warned that if the parliament's voice were not heard now, the legislature would oppose Mr Kiriyenko when his nomination came up for debate on Friday.

"If the president responds positively to the Duma [the lower house of the Russian parliament] appeal, this will considerably ease tensions and improve Kiriyenko's chances to be approved," said Vladimir Ryzhkov, deputy speaker of the Duma and a member of Our Home is Russia. "If consultations are not held, Kiriyenko will be rejected on Friday."

However, the threats from the parliament, which has a tradition of caving in to the president at the last minute, appeared to have little impact on Mr Yeltsin. He warned last week he would exercise his constitutional right to dissolve the legislature if it did not approve his choice.

"All steps undertaken by the president are in strict compliance with the constitution," Sergei Yastrzhembsky, the Kremlin spokesman, told Russian news agencies. "The Duma cannot have any claims on the president."

Mr Yeltsin, who stunned Russia last week by sacking his entire government, yesterday continued to name ministers who will stay on in the new team.

In an announcement welcomed by investors, he said that Mikhail Zadornov, the highly respected finance minister, would keep his job as would Yevgeny Primakov, the hawkish but professional foreign minister.

Mr Kiriyenko, whose nomination last week came as a surprise, is expected today to continue lobbying the parliamentary factions. His task could be complicated by revelations in the Russian media that he attended seminars of the Scientology religious group. Over the past few days, Russian newspapers have also dwelt upon Mr Kiriyenko's admission that his father is Jewish.

Even if it eventually caves in to Mr Yeltsin, the parliament has hinted that it may prolong the stand-off. Although the legislature is legally required to begin debating Mr *Kiriyenko*'s candidacy on Friday, a Communist leader said it was under no obligation to hold a vote on that day.

E Europe 'may face Asia-style crisis'

By Gordon Cramb in Amsterdam

Eastern Europe faces the threat of an Asia-style currency crisis if it relies on the foreign private sector to fund big projects, a leading west European banker will warn in Amsterdam today.

Jan Kalff, chairman of ABN Amro, is expected to tell a meeting on infrastructure financing for the region that renewal projects should in the main be funded locally, unless they generate hard currency through their revenues. Utility works would need to be scaled down to be sustainable.

The Dutch bank is among the institutions most active in central and eastern Europe. Mr Kalff's warning signals a rethink by key lenders since the onset last year of foreign exchange and economic upheavals in east Asia, which prompted ABN Amro to make a Fl 500m ($242.7m) provision for potential losses.

The conference, while drawing together multilateral institutions such as the World Bank and the European Bank for Reconstruction and Development, had not been intended as a pledging session for donors.

But the Asian crisis has meant that even enthusiastic proponents are urging caution. Early last year, Mr Kalff raised the idea of a "structured public and private sector dialogue" on financing regeneration in east Europe.

He is to tell delegates any shift in capital flows from Asia to the infrastructural needs of emerging Europe, which ABN Amro estimates at $100bn excluding the former Soviet Union, carries risks of a less stringent evaluation of projects.

That would widen a mismatch between the currency in which loans were advanced and the local denomination of revenue streams. Investments would be undermined by any speculative run as long as domestic financial markets remained fragile.

Johannes Linn, World Bank vice-president for Europe and central Asia, said yesterday the proportion of private finance in infrastructure for all developing countries had fallen. "There is reason to believe that in the near future it may drop further, because of the events in east Asia."

Sir Brian Unwin, president of the European Investment Bank, said: "Our experience has shown that negotiations on sharing risk with private sector interests have often been protracted. In some cases, the project might have been completed sooner and better by the public sector."

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Workers' rage fails to rouse Russians to revolution

Unpaid wages are still well down the political agenda, writes **Chrystia Freeland**

Two months ago, in the dark of Siberian winter, the patience of the workers at the Kuznetskaya mine snapped. Their wages had *not been paid for nearly* three years, their remote village was without telephones, running water and reliable heating, and their children were dropping out of school because they could not afford to make the 15km journey to get there.

And so, when Alexander Ternovikh, the manager of their mine, showed up at his office on a freezing morning in late January, a gang of angry miners and their wives and children, jammed chairs and tables against his door and held their boss prisoner.

In the dismal Kuzbas, a depressed mining region in the middle of Siberia which has come out on the losing end of Russia's bold market reform drive, the Kuznetskaya miners' revolt made a grim sort of sense.

Yet the real lesson of their protest is not that the nation's army of under-employed and unpaid workers is on the verge of revolution. On the contrary, the Kuznetskaya mine, whose manager is now at liberty and whose workers are still unpaid, is an example of how, for all their fury and all their desperation, discarded workers have almost no effective means of protest.

Periodically, Russia's degraded proletariat does manage to capture the Kremlin's attention. President Boris Yeltsin's formal justification for last week's abrupt sacking of the entire government was mounting wage arrears. And next week workers hope to seize centre-stage with a pan-Russian protest. But, occasional gov*ernment promises and feeble* national workers' demonstrations notwithstanding, the lesson of the past few years has been that in post-communist Russia, workers have almost no political muscle.

At Kuznetskaya the protest began boldly enough.

"We had no money!" recalls miner Alexandra Burmotova. "As of this coming May, it will be three years that we have not been paid. So, we said: 'Pay our wages!' and we held him hostage for five days."

Two months later, with the mine's ownership disputed between a western investor and the left-leaning local government, Liubov Petrova, a 51-year-old matron, admits: "Our protest brought us nothing. We are the real hostages here. We don't have democracy in Russia, just thieves and bastards."

Throughout the Kuzbas, where snow is black with coal dust and crumbly concrete barnacles are the main form of housing – as ugly as they are uncomfortable – disgruntled workers are coming to the same conclusion.

"There is no point in striking, the director told us," explains Piotr Boikov, who took part in a strike at the nearby Komsomolets mine last month. "He [the director] said: 'You can stay there, at the bottom of the mine, as long as you like. You can even live there. There still will be no money for you'."

The problem, local union leaders say, is that Russia's depressed economy and its frail political institutions mean that the miners have almost no means of effective collective action. Discredited by years of co-operation with the communists and further enfeebled by the country's bleak economic conditions, even trade unions are barely able to organise worker protest.

It was not always thus. In 1989, the protests of the raging Kuzbas miners hammered one of the final nails into the coffin of communism and helped push Mr Yeltsin and his democratic supporters into power.

By contrast, over the past seven years of often painful market reforms, the Kremlin has discovered, to its own surprise, that an angry proletariat has little power to shake the country's new political and economic institutions. At first hesitantly, and now with increasing boldness, the government has learned that it can pursue the toughest financial stabilisation programmes with little fear of a political backlash.

Economically, this has not been an entirely bad thing. Cutting subsidies to loss-making Soviet-era industries, such as the mines of the Kuzbas, is one of the crucial steps Russia has had to take on the way to reviving its economy, and the political weakness of the losers in the economic transition has helped make that possible.

More generally, the impotence of Russian workers, whose wage arrears are again mounting, is the biggest reason why the Kremlin has managed to defend its hard won financial stabilisation, especially in the wake of the financial turmoil caused by the Asian crisis.

In the long run, however, the lack of political institutions through which everyone, even the dispossessed, can express their grievances, may prove to be one of the greatest flaws in the emerging new Russia.

"The lack of civil society, the lack of democratic institutions, has become one of our most important problems," says Grigory Yavlinsky, leader of Yabloko, the leading democratic opposition party. "The government was extremely passive in creating civil society – we still have no effective trade unions, no judicial system, no free press. In such a political vacuum, strange flowers, which look like monsters, are emerging."

For the Kremlin and its wealthy Moscow backers, the most frightening of these monsters are the charismatic nationalist and populist politicians who are emerging as serious contenders for the presidency in elections scheduled for 2000.

They include Alexander Lebed, the former general, and Yuri Luzhkov, Moscow's mayor, and if either of these strongmen devises a way of tapping the anger of the unpaid workers, Russia's post-communist establishment could be overturned. It may be fear of these "strange flowers" that has prompted Mr Yeltsin, still endowed with the most sensitive political antennae, to try to put wage arrears back on the economic agenda.

Kuzbas miners helped overthrow communism but are still waiting for their pay — Popperfoto/Reuters

EU ENLARGEMENT TALKS START ON MEMBERSHIP AND AGRICULTURAL REFORM

Poles seek financial aid for EU entry

By Lionel Barber in Brussels

Poland urged the European Union yesterday to provide more financial aid to cover the costs of preparing for early entry into the EU.

Bronislaw Geremek, the Polish foreign minister, also called for more money to pay for control of Poland's eastern border and special "transition periods" to help to prepare its service sector for competition from the EU's single market.

He was speaking on the first day of enlargement negotiations in Brussels between the EU and the six countries on a fast track for membership: the Czech Republic, Estonia, Hungary, Poland, Slovenia and Cyprus. Five other candidates are on a slower track: Bulgaria, Latvia, Lithuania, Romania and Slovakia.

The wish-list from Warsaw includes a request for a temporary easing of environmental rules; free movement of workers; the right to exercise freedom of movement immediately after Poland joins the Union; and restrictions on the purchase of Polish real estate by foreigners.

Poland's statement marks the opening shot in negotiations which are expected to last several years as each candidate adapts its economy and public administration. Each one will follow a road map to membership, known as the pre-accession partnership, which is tailored to individual needs.

Because of its almost 40m population and the size of its agricultural system, Poland is widely viewed as the country which presents the EU with its biggest challenge on enlargement. But Poland's strategic importance as Germany's eastern neighbour means that it is a strong candidate for early membership.

Ministers denounce farm blueprint

By Michael Smith in Brussels

Germany, Spain and Ireland led the attack yesterday as proposals to reform the Common Agricultural Policy (CAP) were subjected to sustained criticism from a majority of European Union nations.

Farm ministers from the three countries were among those who vehemently rejected the reform blueprint drawn up by the European Commission. Even those countries which indicated general support made clear they would press for substantial changes.

Most ministers complained about what they believe is inadequate compensation for proposed cuts in guaranteed prices for milk, beef and cereals of up to 30 per cent. Plans for allocating an increase in milk quotas provided another target for attack, while Spain and Greece strongly criticised proposed changes to the olive oil regime.

Few elements of the biggest reform of the CAP in its 36-year history escaped criticism.

The onslaught suggests Jacques Santer, Commission president, will struggle to achieve his aim of winning approval from the EU's 15 member states by early next year for the "Agenda 2000" package of which the CAP proposals form an integral part.

The Commission believes the reforms are essential to allow the accession to the EU of 11 aspirant members.

Officials put a brave face on yesterday's criticisms, saying they were far less savage than those which initially greeted a package of CAP reforms eventually agreed in 1992.

They also took comfort from the support of countries, including Denmark and the UK, which in spite of detailed criticisms said they were broadly in favour of the reforms.

Aides to Franz Fischler, the farm commissioner behind the reforms, said they still believed the broad thrust of his proposed policies, including cuts in guaranteed prices, would be adopted. But they conceded changes would have to be made and one said there was an outside chance that the changes could be agreed later this year.

Jochen Borchert, Germany's farm minister, was among the fiercest critics of the reforms yesterday. He said Germany would have to pay Ecu500m ($545m) more a year towards the CAP, yet its farmers would see their incomes decline. He said farmers would become too dependent on direct aids.

Joe Walsh, Irish farm minister, said he had accepted the broad thrust of proposals presented by the Commission last July, but Ireland was a big loser from changes announced two weeks ago. "These proposals are discriminatory and I reject them out of hand."

Ireland was angered by proposals which will allocate half of the 2 per cent increase in milk quotas to mountainous regions, since it has no regions categorised as mountainous. Arable compensation was inadequate, said Mr Walsh, while the Commission should examine the depressive effects its proposals on beef would have on consumer demand for sheepmeat.

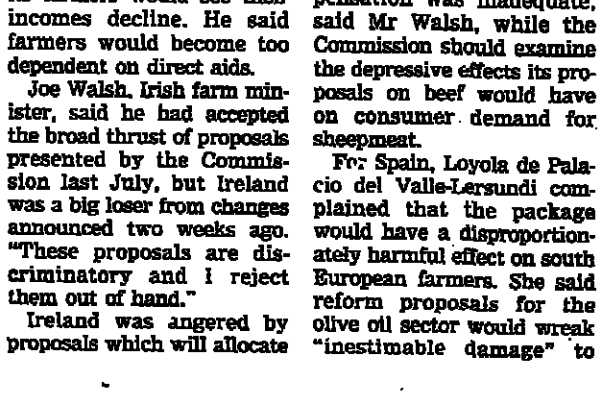
For Spain, Loyola de Palacio del Valle-Lersundi complained that the package would have a disproportionately harmful effect on south European farmers. She said reform proposals for the olive oil sector would wreak "inestimable damage" to Spanish farmers. Proposals to limit olive aid to individual countries were unfair because they were based on production figures collected during a Spanish drought.

Louis Le Pensec of France said he was disappointed by the reform proposals, which offered no real solutions. It was a more expensive policy, yet it would not guarantee the income of farmers. Plans to give countries more discretion were complicated and could prove impossible to apply.

Lord Donoughue, for the UK, said the fundamental direction of the reforms was right. But the proposed changes to the dairy regime were too timid and it was "wholly illogical" to allocate new quotas to mountain areas whose producers were among the most marginal in the community.

The UK felt direct payments compensating for price cuts were too high. It was disappointed there was no reform of the sugar and sheepmeat regimes.

Belgium's Karel Pinxten said farm incomes would fall by more than 10 per cent in *his country* if the reforms were implemented. He would reject them.



Irish farmers demonstrate at yesterday's meeting — Reuters

NEWS DIGEST

EUROPEAN COURT

Takeover conditions of German group annulled

The European Court of Justice yesterday annulled a 1993 decision by the European Commission that imposed conditions on the takeover of an east German potash producer by Kali & Salz, a west German company. The court argued that the Commission had failed to establish that the deal would sew up the European market in potash.

But in a landmark ruling, the court upheld the Commission's right to block mergers in sectors where, although the individual company resulting from a merger may not be dominant, a small group of companies are regarded as being jointly dominant. Brussels had argued that Kali & Salz, together with France's Société Commerciale des Potasses et de L'Azote (SPCA), would have controlled the European market in potash.

But SPCA objected to the fact that the conditions imposed by the Commission on Kali & Salz affected it directly, even though it had nothing to do with the merger.

One of the Commission's conditions was that Kali & Salz should end the distribution agreement it had with the French company. **Emma Tucker, Brussels**

UKRAINIAN ELECTIONS

OECD criticises poll campaign

The Organisation for Security and Co-operation in Europe has sharply criticised Ukraine's parliamentary and local elections which were held on Sunday. The OSCE said the pre-election campaigns were "marred by incidents of violence, arrests and actions against candidates and abuse of public office that represent serious shortcomings in the conduct of the campaign, and raise questions about the neutrality of the state apparatus in the election".

The OSCE report concentrated on violations in local elections, but also pointed out many attempts by the Ukrainian government to manipulate the national media. With 190 out of 225 districts reporting parliamentary election results yesterday, the Communist party looked set to win over a quarter of the 450 seats in parliament. Its Socialist allies have strengthened since Monday's preliminary figures and could take 20 to 40 seats.

Two other parties which previously looked to have gabbed over 4 per cent of the vote, entitling them to seats in parliament, have now fallen back below this mark, at least temporarily. These are the pro-government Agrarian party, and the opposition Hromada (Community) party. **Charles Clover, Kiev**

FRENCH UNEMPLOYMENT

Gradual reduction continues

The gradual reduction in the number of French jobless resumed in February after a brief reverse the previous month against the background of an increasingly strong economic recovery.

February saw the number of people seeking jobs fall by 7,300 to 3.02m, a decline of 0.2 per cent, according to labour ministry figures released yesterday. However, on the criteria of the International Labour Organisation, unemployment fell by 9,000 with 12.1 per cent of the workforce out of jobs.

On present trends, economists estimate the unemployment level should fall below 12 per cent by June and reach between 11.7-11.8 per cent at year-end. This compares with a high of 12.5 per cent last year.

The fastest growing area of employment continues to be services. The latest figures also underline the rise in youth employment, thanks to government incentives, while the proportion of jobs being found by those 50 years old is declining. Year-on-year youth unemployment has fallen to 23 per cent from 25.3 per cent of the total, while the proportion of jobless over 50 has grown from 9.5 per cent to 9.9 per cent. **Robert Graham, Paris**

RUSSIAN MISSILE SALES

Yeltsin reassures Athens

Russia's president, Boris Yeltsin, eyeing future arms sales to Greece, reassured Athens yesterday that Moscow would not back down over a controversial deal to deliver missiles to Cyprus. Mr Yeltsin met Greece's defence minister, Akis Tsohatzopoulos, in a departure from protocol described by the Kremlin as underlining the "special prospects for Russian-Greek military and technical co-operation", Interfax news agency said.

"Mr Yeltsin assured Mr Tsohatzopoulos of Moscow's determination to fulfil the contract to provide Cyprus with the S-300 anti-missile defence system on time," Interfax said, quoting the Kremlin spokesman, Sergei Yastrzhembsky. Turkey said last week deployment of the surface-to-air missiles on the divided island, expected in September or October, could lead to fighting. Turkey has about 30,000 troops on Cyprus, split since Turkish forces invaded the north of the island in 1974 after a brief Greek Cypriot coup engineered by Greece. The Turkish Republic of Northern Cyprus is recognised only by Ankara. The Greek Cypriot government, which is recognised internationally, has about 10,000 guardsmen on the island. **Reuters, Moscow**

TURKISH PRISONS

Inmates take 27 hostages

Leftwing inmates at Turkish jails took dozens of prison guards hostage and set fire to cells yesterday in nationwide protests over jail transfers, prison officials said.

They said the prisoners, affiliated to a far-left urban guerrilla group, seized 12 warders at Bergama jail in western Turkey, 11 guards at a prison in Istanbul and four guards at an Ankara jail. There was no report of any injuries.

The prisoners of the Revolutionary People's Liberation Party-Front (DHKP-C) are demanding an end to transfers of leftwing inmates from the western Buca jail. Two senior prison officials were among the hostages.

Prisoners in Turkey's jails are generally kept in open dormitories instead of individual cells. Political groups are normally held together to avoid violence with rival factions.

Guerrillas from DHKP-C have been involved in rocket attacks and killings of security force members in big cities. Seven people died last year when police put down a riot at an Istanbul prison. Ten prisoners died in a similar incident the year before. **Reuters, Ankara**

ESTONIAN TELECOMS SELL-OFF

ABN-Rothschild group to advise

A consortium led by ABN Amro Bank N.V. and N.M. Rothschild & Sons has been appointed adviser to the Estonian government in the privatisation of a 49 per cent stake in Eesti Telekom, the state-owned carrier.

The consortium, which includes Nomura International and Uhisbank, Estonia's largest bank, will advise the transport and communications ministry and Eesti Telekom on the flotation, which, according to sources close to the deal, could yield up to $200m.

Raivo Vare, transport and communications minister, has been authorised by the government to sign the agreement, said a spokesman for the ministry. Eesti Telekom, a holding company, has majority stakes in Estonia's fixed-line telephone monopoly and leading mobile carrier.

The competition attracted bids from 17 leading investment banks, an unprecedented number for a deal of this size in eastern Europe. **Matej Vipotnik**

هكذا من الأصل

Czech SE gets a watchdog at last

By Joe Cook in Prague

The Czech capital market, its credibility long tarnished by lack of openness and poor regulation, comes under the attention of a securities watchdog today for the first time since the Prague Stock Exchange opened for business in 1993.

"It is the first step to rebuilding investor confidence in the Czech market," said Kamil Goca of Wood & Co, a Prague stockbroker, echoing the hopes of many in the financial community. "Right now, the Czech Republic is absolutely avoided by foreign investors, especially institutional portfolio investors."

It may be some time, however, before international investors again cast a serious eye over Czech stock. Their view of the market has soured thanks to a combination of weak shareholder protection, poor disclosure, rampant insider trading and lax enforcement of existing laws.

More fundamentally, corporate performance has been poor and the economy has slowed after last year's currency crisis. GDP growth fell from 3.9 per cent in 1996 to just 1 per cent last year.

Investors may draw some comfort from the appointment of the widely respected Jan Muller as head of the Czech Securities Commission (CSC).

The 29-year-old Mr Muller has earned respect at home and abroad for his consistent and outspoken advocacy of strong market regulation.

Mr Muller was persuaded to apply for the job by Ivan Pilip, the finance minister. He takes a 50 per cent pay cut by leaving his job as custody manager at Commerzbank in Prague to head the commission.

He will be joined by Tomas Jezek, a former privatisation minister who now chairs the Prague Stock Exchange, and Frantisek Jakub of the Securities Office. They will later be joined by two more commissioners as soon as suitable candidates can be identified and persuaded to take on the job.

Respect for Mr Muller notwithstanding, there are reservations among investors and market participants about the CSC's strength. Doubts stem from the fact that the planned five-man board of commissioners is nominated by the cabinet and approved by the head of state, which some say could give rise to political patronage.

Moreover, the CSC will be financed by the state budget, not market participants, and it also lacks the power to issue binding rules.

This has cast doubt on the CSC's ability to quickly respond to market developments.

If it sees fit to amend or issue rules, it must submit its proposals to the finance ministry for approval. Such a bureaucratic procedure may cause delays, enabling less scrupulous dealers to profit.

"If the commission doesn't become reputable immediately, investors will never regain confidence in the Czech market," Mr Goca said.

Kocharyan wins in Armenia amid poll suspicions

By Selina Williams in Yerevan

Armenia's prime minister and acting president, Robert Kocharyan, has beaten his former communist opponent in presidential elections that were marred by claims of irregularities as soon as voting started.

With about two-thirds of the vote counted, the central election commission said Mr Kocharyan had 60.75 per cent of the vote, compared with 39.25 per cent for his rival and one-time leader of Soviet Armenia, Karen Demirchyan.

But one western observer said the elections were rigged. The observer said turnout figures were suspiciously high, reaching almost Soviet proportions in some precincts in Yerevan.

"There is no other way to explain such bizarre figures," the observer said, referring to a precinct where turnout jumped from 69 per cent in the first round two weeks ago to almost 99 per cent in the final round on Monday. "The pattern is the same nationwide: high turnout, with the extra vote in Kocharyan's favour. The only explanation is that the ballot boxes were stuffed," the observer said.

The central election commission head, Khachatur Bezirjyan, said many complaints had come in on election day, but they had been unable to find any concrete evidence to support them.

Some 150 international observers with the Organisation for Security and Co-operation in Europe scrutinised the counting procedures. The OSCE said there were first round violations but would not issue a statement on the second round until all results are in.

FRENCH VOTING ATTEMPTS TO IMPROVE SYSTEM ARE THINLY DISGUISED EXCUSE TO EXCLUDE NATIONAL FRONT

Chirac looks to electoral reform

By Robert Graham in Paris

President Jacques Chirac has begun sounding out French political leaders on ways to overhaul the country's various electoral systems.

The review, promised in a nationwide address on March 23, was prompted by the outcome of regional elections in mid-March which saw moderate rightwing parties forging deals with the extremist National Front to retain hold of five of France's 22 mainland regions.

Among the first centre-right politicians to see Mr Chirac were François Bayrou, a former education minister from the UDF group, and Alain Madelin, a former finance minister who was the most ambiguous among UDF leaders in denouncing deals with the National Front.

Mr Chirac is formally pledged to find ways of improving the electoral system. But this is a thinly disguised excuse to change the rules to exclude the National Front and to prevent the moderate right from disintegration.

The immediate focus is on the need to put in place a more coherent system for the various elections which operate under different processes. Municipal and local elections use a first-past-the-post system, with a premium for the group that wins most votes to ensure a stable administration.

Centre-right party leader François Bayrou gestures after meeting President Jacques Chirac yesterday. Behind are ex-conservative ministers Jacques Barrot, Philippe Douste-Blazy and Pierre Mehaignerie AP

Regional elections, introduced only in 1986, rely upon proportional representation, which encourages a plethora of parties and unstable ruling majorities. National parliamentary elections in contrast rely on a two-round, first-past-the-post system.

All the main political parties have talked of rewriting the rules for regional elections for the past three years. The nine-month-old Socialist-led government said with some justification there was insufficient time to make changes before the March poll. But now the issue has become much broader than simply finding a more effective regional electoral system.

For his part, Mr Chirac may well be tempted to build a consensus around altering the rules for general elections. In particular, he may seek to limit the second round run-off to only two contenders. This would avoid the National Front, which wins about 15 per cent of the vote, siphoning off support from the moderate right. At the same time the government may raise pressure for a cut in the presidential term to five years from seven.

The consultation process will last into next week and is expected to embrace academics and constitutional lawyers. Lionel Jospin, the prime minister, is likely to fight hard behind the scenes to prevent Mr Chirac from reaping an advantage and giving too much of a helping hand to his demoralised allies in the Gaullist RPR and the liberal UDF.

Neither party has yet overcome the shock of so many of their number breaking party discipline to align with the National Front in the regions.

Olympic's workers protest over cost-cutting

By Kerin Hope in Athens

The confrontation between Greece's Socialist government and unions at Olympic Airways, the loss-making state carrier, deepened yesterday as airline workers demonstrated outside parliament in protest against draft legislation to cut costs.

The cost-cutting package, which includes a three-year wage freeze, longer working hours and a ban on overtime, is intended to produce savings of Dr50bn ($157m) yearly over the next five years, transport ministry officials said.

It is expected to result in some job losses as Olympic's workers will be required to sign individual agreements accepting the new working regulations.

The government resorted to legislative measures after talks between Olympic's management and unions broke down on Monday. Olympic's unions called a three-hour work stoppage yesterday, with backing from Greece's trade union confederation.

Transport ministry officials denied a report that Theodoros Tsakirides, Olympic's chief executive, had resigned after being harassed by militant protesters who stormed his office at the airline's headquarters.

The Socialists are committed to restructuring Olympic, and three other loss-making state corporations which have accumulated heavy debts, as part of the effort to qualify for membership of the European single currency by 2001.

The government signalled yesterday that it would stand firm on public sector reform despite the dispute with Olympic's unions, which have traditionally been strong supporters of Costas Simitis, the prime minister, and his moderate wing in the Panhellenic Socialist Movement.

Yannos Papantoniou, economy minister, said that similar legislative packages would be pushed through parliament if negotiations failed with unions at the Greek Post Office, Hellenic Railways and the Athens bus company.

The three corporations have debts totalling more than Dr700bn. Olympic was allowed to write off almost Dr500bn in debt in 1994 as part of a restructuring agreed with the EU.

However, losses last year amounted to Dr6.5bn, mainly because of salary increases averaging 20 per cent.

The government has threatened to shut down the airline if it fails to reach agreement with the 7,000 workers on the restructuring, and re-open it under a new charter.

If the crisis is prolonged, Olympic will be in danger of losing control of profitable routes to the Greek islands this summer, as domestic routes are due to be opened to international competition from July 1.

Cross-dressing the norm for Hungary's political parties

Conventional assumptions on European politics do not apply, says **Anatol Lieven**

Hungary is challenging conventional assumptions about European politics as it prepares for its third free parliamentary elections since the collapse of communism in 1989.

Whereas political parties in a western European country can often be broadly classified as leftwing, liberal, centre-right and conservative, such labels are misleading in Hungary. Only the liberal party, the Free Democrats, really corresponds to its label.

"Hungarian politics are really difficult for a foreigner to understand," observed Gabor Demszky, mayor of Budapest and a Free Democrat leader.

This is because, for several years now, the parties have indulged in an orgy of political cross-dressing. Thus the ruling "leftwing" Socialists, successors to the Communist party, have implemented the most far-reaching privatisation programme in the former Communist bloc, giving the greatest encouragement to investment by multinational companies.

In 1995-96, the Socialists also implemented an austerity programme of unparalleled severity, with especially harsh results for the poor. Last year, they seized on yet another piece of "rightwing" clothing by signing a concordat with the Vatican guaranteeing a strong place for the Catholic Church in the education system. This infuriated their coalition partners, the Free Democrats, with their urban intellectual base and traditional anti-clerical attitudes. As for rank-and-file Socialists, used to strict party discipline, they seem immune to further ideological surprise.

Finally, the Socialists, once loyal to Moscow, then neutralist, last year scored two historic foreign policy successes by securing invitations to join Nato and to begin negotiations with the European Union.

The Socialists are running in the May 10 elections on this record, and above all on the argument that their economic policies have proved a triumphant success. Growth for this year is predicted at between 4 and 5 per cent, and the IMF praises the economy as the most soundly based in the region.

Partly in response, the main "rightwing" parties, the Young Democrats (Fidesz) and the Smallholders, are emphasising "leftwing" economic themes: attacking the disparities of wealth created by the changes under Socialist-Free Democrat rule, and demanding equality of opportunity, redistributive taxation, and defence of education and the health service.

Laszlo Csaba, an economist at the Kopint-Datorg Institute in Budapest, said the policies of the different parties to some extent reflected their class base. The Socialists have close links with the businessmen who emerged from the former Communist bureaucracy.

The opposition are supported by the professional middle classes of the Communist era – teachers, doctors and so on – who were the principal losers from economic change. The Smallholders have strong support among farmers.

Mr Demszky traces the policies of the "right" to the traditional populist attitudes of Hungarian conservatism, coupled with the absence in post-Communist Hungary of a stable and prosperous middle class. "Instead, we have an impoverished society in which the 'right' is based on the losers from the transition, who blame liberalism and the free market for their sufferings."

Until a few weeks ago, however, the opposition's arguments did not seem to cut much ice with the electorate. Opinion polls showed the Socialists well ahead of the other parties.

Mr Demszky said that the Free Democrats were unlikely to agree, because in these circumstances the coalition would be too unequal and the Free Democrats would end up being suffocated by the Socialists.

The latest opinion poll, published in the Magyar Hirlap newspaper, showed Fidesz running almost even with the Socialists. This seems to reflect anti-Socialist voters rallying to Fidesz as it becomes clear the latter has the best chance of ousting the Horn government.

A Socialist victory in May still seems probable. Even if a coalition of Fidesz and the Smallholders were to take power, most analysts think that economic realities, and Hungary's desire to join western Europe, would restrict the new government's ability significantly to change course.

Having begun by stealing each other's clothes, the main parties may end up by all wearing variants of the same patchworked costume.

Israel defiant as peace bid fails

By Judy Dempsey in Jerusalem

Benjamin Netanyahu, Israel's prime minister, yesterday brushed aside suggestions that Dennis Ross, US Middle East peace envoy, returned to Washington "empty-handed".

Speaking to Jewish settlers in the West Bank who oppose any Israeli pullback, Mr Netanyahu said: "We're no suckers. We don't give without receiving." He said he had put forward "bridging proposals" to the Americans, but the US State Department contradicted everything Mr Netanyahu said.

"We have been unable to bridge the gaps on the hard questions," said James Rubin, US State Department spokesman, reflecting the growing sense of frustration with Israel's refusal to make any concessions over the amount of land it will hand back to Palestinian control.

The US wants Israel to give 13 per cent of land back to the Palestinians in the second overdue troop pullback. But such an amount of territory would not be sufficient to form a viable Palestinian state, a view commonly shared by US and EU diplomats.

In London a spokesman for the prime minister said Tony Blair might accept an invitation from the Palestinian authorities to stay in Gaza during his four-day trip to the Middle East.

His office said it was "possible" that the prime minister would take up the suggestion put forward by Yassir Arafat, the president of the Palestinian Authority. He would be the first world leader to stay in Gaza, symbolically boosting its ambitions towards statehood.

Diplomats said Washington would now have to decide what, if any, pressure it would exert on Israel to revive the peace process before patience among Palestinians runs out.

Opec puts firmness of its grip to the test

By Robert Corzine in Vienna

During the next few months governments in the Gulf and other oil-producing regions will desperately be seeking signs that their co-ordinated output cut agreed early yesterday by the Organisation of Petroleum Exporting Countries is beginning to bite.

The aim of the agreement, which also covers five non-Opec countries including Mexico and Norway, is to shave around 2 per cent off world production of about 75m barrels a day. That, say backers of the scheme, should be enough to re-balance the market, which is awash with crude oil as a result of the Asian crisis, the mild winter, and an ill-timed rise in Opec production last November.

However, world markets remained sceptical of the efficacy of the plan, and the price of oil fell further yesterday.

Mexico and Norway will each reduce output by 100,000 b/d as part of the global cut. Individual Opec contributions range from a 300,000 b/d cut by Saudi Arabia, the world's biggest crude exporter, to a 30,000 b/d cut from Qatar, the small Gulf state that has consistently produced above its Opec quota. The cuts, due to be implemented today, are outside the Opec quota system, which in practice is being ignored, although officials in Vienna vehemently deny that the new pact heralds the death of the old quota system: "This is a temporary fix to a temporary problem," said one.

Coming months will be a testing time for the exporter's group. Some of the cuts will be quite prominent: Kuwait is to halt all spot oil sales, while Saudi Arabia may make some deep reductions in some of its sales contracts. Those from smaller producers will be harder for the markets to detect.

There will also be questions about whether they are fully implemented. After all, Opec's record for adhering to normal quotas is patchy at best. So what makes the latest accord any different?

"This time we're all hurting," said one Gulf Arab delegate yesterday in commenting on the financial damage that low prices has inflicted on many oil economies in the Gulf and elsewhere. "They knew that if we didn't do anything the worse might happen."

In the case of Opec members such as Iran, Algeria and Nigeria, all of which were under considerable economic and political strain even before oil prices fell, "the worse" could include greater social unrest.

Officials also insist that the arrangement is even beneficial for Venezuela and Qatar, two chronic Opec quota-cheaters, as long as it delivers on the promise of stable if not higher crude prices. Both countries are in the midst of large-scale, capital-intensive expansions of their energy sectors. They need higher prices to underpin those expansions.

But yesterday's slide in oil prices suggests the markets believe a cut of 1.5m b/d is too little given the large amount of surplus crude in the world. "To agree 1.5m is a lot," countered one Kuwaiti representative.

Opec officials say that even if the full cut of 1.5m b/d does not materialise, those that are implemented will be big enough for the market to be unable to ignore them. "After all, it's better than having something that people are not really committed to," insisted the Kuwaiti delegate.

But what happens if oil prices fall to the recent nine-year lows that prompted Opec and other big exporters to take action? Delegates said there was no "trigger point" that would automatically prompt new measures. But they note that the next Opec meeting is just under three months away should the latest cuts prove inadequate to halt the price slide.

Saudi oil minister Ali Naimi leaving the Opec meeting early yesterday. *The world's biggest exporter plans deep cuts* Reuters

Editorial Comment, Page 15; Market report, Page 26

Lebanon $1bn eurobond sale lifts reserves

By Roula Khalaf in London

Lebanon raised $1bn in three and five year eurobonds yesterday, double the amount it had originally sought from international capital markets.

By boosting foreign exchange reserves, the issue, part of a programme to raise $2bn to restructure Lebanese debt, will buy the Lebanese central bank more time to support the currency.

The huge demand for Lebanese bonds masks underlying weaknesses in the economy and the government's persistent efforts to avoid a depreciation. According to Paribas, the lead manager, half the eurobond issue was sold to Lebanese banks, with the rest split between Middle Eastern and European investors.

Local banks have often been buyers of eurobonds, but bankers said the big demand this time was partly driven by an effort to help the central bank accumulate foreign exchange reserves.

"The banks have dollar liquidity and they are aware that in the end they stand to lose from a depreciation of the currency," one banker said.

Lebanon's currency came under pressure when foreign investors in Lebanese Treasury bills withdrew from the market in the wake of the Asian crisis. Local investors grew increasingly concerned about a spiralling budget deficit and a debt burden (largely domestic) which today has reached 95 per cent of gross domestic product.

At the end of last year, the central bank averted a currency crisis through heavy intervention on the currency markets, which led to an erosion of foreign exchange reserves.

Since then, Riad Salame, the central bank governor, has been rebuilding reserves, first by attracting at the end of December a $600m Saudi government deposit, $500m of which went directly into the reserves.

The Saudi deposit was followed earlier this year with a $100m deposit from Kuwait, and now the $1bn in eurobonds.

Mr Salame said that net reserves at the central bank were down about $100m since December and bankers estimate net reserves before the eurobond issue at no more than $2.5bn.

According to bankers, public sentiment has not yet turned in the pound's favour, with local investors waiting for the government to prove it will stick by its projected public deficit figures this year.

The Lebanese typically rush to change their money into dollars when they sense a political crisis. The squabbling between Lebanon's top politicians could intensify with presidential elections expected in the autumn.

In early March, Rafiq Hariri, the prime minister, stormed out of parliament after a dispute with Nabih Berri, the parliament speaker, costing the central bank an estimated $80m to support the pound.

The eurobonds will be used to retire more expensive domestic borrowing or peg the outstanding local currency debt at its current level. Mr Salame said the situation remained stable and interest rates were not being raised to keep the Lebanese from dumping T-bills. But he admitted that the market today "depends on the political scene".

"The markets have again gained relative immunity in the short term with the $1bn, and there are promises of more Arab deposits coming," said a banker. "Yet the fundamental imbalances are still there. It is like buying time in the hope that you'll have structural adjustment in the economy and get through the presidential elections."

Veteran Botswana leader steps down

By Mark Ashurst in Gaborone

Sir Ketumile Masire stepped down after 18 years as president of Botswana yesterday, as US President Bill Clinton paid tribute to his role in building Africa's strongest economy.

His retirement coincided with the US president's departure from Botswana, where he has spent three days, for Senegal, the final stop on his six-nation African tour. Festus Mogae, Botswana's vice-president, will be sworn in as head of state today.

Sir Ketumile, 72, has presided over one of the most remarkable economic successes on the continent. Between 1975 and 1990, exports of diamonds mined beneath the Kalahari desert fuelled annual gross domestic product growth of 11 per cent, making Botswana the fastest growing economy in the world.

With foreign reserves estimated at $5bn, the land-locked country is in the rare position for an African state of being a lender to the International Monetary Fund. The first diamond reserves were discovered in 1967, a year after Botswana gained independence from Britain.

Sir Ketumile has pursued an ambitious development programme since 1980, when he succeeded Sir Seretse Khama, Botswana's founding president. Diamond exports have increased tenfold over the same period, funding the creation of an extensive public health and education system, and a 14,000km road network. Economists expect continued buoyant growth of about 7 per cent this year.

True to the themes of his 11-day African tour, Mr Clinton praised Botswana for espousing democracy and liberal economic policies. He lauded the joint mining venture between Sir Ketumile's administration and De Beers, the South African diamond producer, and cited Botswana as an example for other African states. The US was "determined to support all those who follow your lead," Mr Clinton said.

However, the economic boom has done little to alleviate poverty in Botswana. According to official figures, 47 per cent of the population live below the poverty line, youth unemployment is rising, and a third of the sexually active population are infected with the HIV virus.

Support for Sir Ketumile's Botswana Democratic party, which has ruled since independence, has waned over the past decade. His retirement, a year before the next general election in 1999, has been widely interpreted as an opportunity for younger leaders to rejuvenate the party. This follows significant gains made in the 1994 election by the Botswana National Front, the main opposition party, which commands strong support in urban areas.

Intelsat in satellites sell-off plan

By Nancy Dunne in Washington

Intelsat, the inter-governmental satellite organisation, yesterday announced it would spin off five satellites plus one under construction, creating a privatised company called New Skies Satellites.

The fledgling company will be the result of four years of tough negotiations between Intelsat's 142 members. It is seen by the US, its prime backer, as a first step towards *total* privatisation of the government-owned Intelsat system, which provides voice, data and video services to over 200 countries and territories.

The negotiators, who have been in talks for several weeks in Salvador, Brazil, were jubilant a deal was reached. "We've shown that an organisation of 142 disparate countries can make fundamental changes in its organisational structure in a positive way, one that preserves a fair competitive framework," said Tony Trujillo, Intelsat spokesman.

US officials envisage New Skies as "a commercially nimble" company, free of the bureaucratic decision-making structure they say hinders Intelsat. The company will be launched with assets of some \$700m-\$1bn, but no management structure, board or employees. Even the name may be changed.

It will mostly provide new services such as television and internet transmissions. For the first months Intelsat will provide staff under contract; recruitment is under way *for a chief executive*.

Initially, Intelsat will own 10 per cent of the stock, with the other 90 per cent to be distributed to individual Intelsat members. Safeguards have been agreed to ensure an arm's length relationship. Intelsat representatives will not be allowed to sit on the New *Skies* board. Intelsat has agreed to waive its immunity to prosecution for any antitrust activity in regard to the new company.

The company will be incorporated in the Netherlands. Once it has a management team in place, it will choose a home base and schedule a public share offering, the first of a series leading to a publicly held majority. An initial public offering (IPO) will be held within a year for at least 25 per cent of the shares. The new company is seeking partners among existing satellite companies.

Legislation is moving through the US House of Representatives to try to use US market access to force Intelsat privatisation by 2002. But Senator John McCain, Commerce Committee chairman, has intimated he will kill the bill in the Senate.

Clinton's sex life still on the agenda as president gets back to business of keeping quiet

President's absence has not dented appetite of his tormentors for more details of alleged misdemeanours, says **Gerard Baker**

Lewinsky: allegations of affair have thrown former White House worker into centre of the storm

President Bill Clinton returns to Washington tomorrow from his 12-day interlude in Africa and *gets back to the important* business of avoiding answering questions about his sex life.

If he had hoped his long absence might have dulled the appetite of his legal, political and media tormentors for more details of his alleged misdemeanours and cover-ups, he will be abruptly disabused when he steps off Air Force One at Andrews Air Force Base.

Although in his absence Congress has been in one of its busiest legislative phases only one issue – the allegations against the president – has the capacity to set the pulse of Washington's political élite racing.

In the last month the saga has turned into a grisly parade of women with new (and sometimes old) allegations about affairs with the president, of varying degrees of seriousness. Yesterday the New York Post produced the latest – an interview with *Elizabeth Ward Gracen*, a former Ms Arkansas, who claims to have had a consensual affair with Mr Clinton when he was governor of Arkansas in 1982.

White House officials cling to the hope that the bewildering stream of new allegations will numb the public mind and perhaps obscure the issue of whether he committed serious offences – from sexual harassment to obstruction of justice.

There is indeed still little evidence to suggest that the public's very first verdict on the revelations – that, if true, they were reprehensible acts, but not matters for impeachment – has changed much.

But Mr Clinton's advisers know they are moving into a critical phase of the crisis.

In the next three months the various strands of the investigation of the president will begin to converge.

On May 27 the case of *Jones vs Clinton will* be heard in a courtroom in Little Rock, Arkansas. In a trial that is expected to last about three weeks, Paula Corbin Jones will press her claim that, in 1991, the president sexually harassed her by requesting oral sex, and then, when she refused, ensured she was discriminated against in her job as an Arkansas state employee.

At around the same time, or perhaps even sooner, Kenneth Starr, the independent prosecutor, is expected to present the results of his investigation to Congress. Many Republicans believe he will say he has enough evidence to support a criminal charge against the president.

Mr Clinton's lawyers are working overtime to have the Jones case dismissed and many sexual harassment lawyers agree the case will be a difficult one to prove. But if it does go ahead, the decision will be in the hands of a jury – a perilous state of affairs for any president.

The criminal investigation by Mr Starr still looks to pose the main threat to Mr Clinton.

If the independent prosecutor does produce a case that Mr Clinton had an affair with Monica Lewinsky or groped Kathleen Willey, two former White House workers, and then lied about the incidents under oath and persuaded others to do the same, the case will enter a crucial political phase.

The Republican leadership is not anxious to press for impeachment, given Mr Clinton's popularity. They plan instead to establish a committee that would review the case then make recommendations about punitive action.

In the meantime Mr Clinton remains curiously incommunicado. He will not talk about the allegations other than to offer simple denials, a policy that gives the continuing frenzy an oddly one-sided nature. But any effort to change the subject to more congenial ground – the economy, the policy agenda – quickly stalls.

It is not surprising the White House has scheduled many more long foreign trips for the president this summer and autumn.

NEWS DIGEST

US CAR INDUSTRY

Foreign manufacturers' plants key to growth

New car assembly plants built by foreign manufacturers have accounted for about half the growth in output of the US car industry during the 1990s, according to a study prepared for the Association of International Automobile Manufacturers.

The trend has made foreign investment instrumental in the US's success in toppling Japan as the world's biggest producer of cars and light trucks.

The impact of Japanese and, more recently, European manufacturers on the US's biggest manufacturing industry is detailed in a report from the University of Michigan. It focuses on foreign companies in the US, rather than North America as a whole, and gives the first measures of the impact of foreign investment on the US economy.

This had also had a significant impact on competition in the US and stimulated an overhaul of domestic manufacturers, said David Cole, a professor at the University of Michigan and the main author of the report. "There has been a tremendous stimulus from the international side. We're just a whole lot more productive, and the quality is much better as a result," he said.

The influx of investment by foreign manufacturers was prompted during the 1980s by the low level of the dollar, particularly against the yen, and the political pressure in the US for a reduction in the trade deficit with Japan. Compared with 1986, when foreigners imported 4.19m vehicles and built only 700,000 in the US, imports had fallen to 1.72m and domestic production risen to 2.37m by 1996.

The new US production base has also provided a platform for exports, according to the study. Foreign producers accounted for only 20 per cent of new vehicle sales in the US in 1996, but 36 per cent of vehicle exports to other countries. With newer plants and a younger workforce, foreign companies have also outstripped the domestic competition on measures like productivity and quality. **Richard Waters, New York**

ECUADOR ELECTION

Eight candidates register

Eight candidates have registered to contest Ecuador's presidential elections scheduled for May 31. In a surprise move, the vice-president, Rosalía Arteaga, resigned so that she can run as candidate for the Independent Movement for an Authentic Republic (Mira) party. Congress must now elect a new vice-president from a shortlist provided by President Fabian Alarcón.

The Social Christian party (PSC), one of Ecuador's most powerful political organisations, also confirmed its unusual decision *not to field a candidate*. With the PSC out of the race, the main contenders are Jamiel Mahuad, the mayor of Quito and candidate for the centre-right Popular Democracy party; television journalist Freddy Ehlers, candidate for the more leftwing New Country-Pachakutik alliance; Rodrigo Borja, president from 1988 to 1992 and standing for the centre-left Democratic Left party; and Alvaro Noboa, candidate for the Ecuadorean Roldosist party of former president Abdalá Bucaram.

If no presidential candidate wins more than 50 per cent of the vote on May 31 there will be a run-off on July 12 between the two candidates with the highest vote. **Justine Newsome, Quito**

TAX PROTEST

Rich give away \$200,000

More than 80 of the highest taxpayers in the US have each pledged to give away up to \$200,000 in protest against the government's tax cuts last year. Just two weeks before the deadline for filing tax returns, the protest *is part of a campaign to highlight* how the bulk of last year's tax cuts are being enjoyed by the top 1 per cent of taxpayers.

The protest campaign – called Responsible Wealth – draws on support from the heirs to the Rockefeller and Dupont family fortunes, as well as retired entrepreneurs and chief executives.

Their target is the cut in capital gains tax, backdated to May, which sharply reduced the tax bill on profits from the sale of investments from 28 to 20 per cent. The reduction formed part of a package of cuts worth \$90bn over five years, in a tax and spending budget which aimed to balance the federal budget by 2002.

The tax cuts were largely presented as middle-class tax breaks, and included a \$500 credit to families for each child. But Robin Lloyd, one of the heirs to the owner of the Chicago Tribune, yesterday promised to donate \$8,000 of her new tax breaks to various social and economic charities.

"I believe it is time for people of wealth to speak out," she said. "We don't need this tax break; we shouldn't accept it. It is impoverishing our commonwealth, and the world our children will inherit." **Richard Wolffe, Washington**

China to give investors airport role

By James Harding in Shanghai

China will open management of its airports to foreign investors this year, in an effort to help its overstretched civil aviation industry answer the demands of a rapidly growing economy.

Air traffic has more than doubled in China in the past five years, straining underfunded and outdated airports. Beijing's commitment to opening the market for the building and management of terminals and services underlines the need for foreign capital.

Xia Xinghua, an official at the Civil Aviation Administration of China (CAAC), set out plans in a report published yesterday for reform of the airport industry and the introduction of Sino-foreign joint management for Chinese airports.

China's debt-ridden airports needed to "open wider to the outside world," Mr Xia said. "The CAAC will issue a regulation later this year allowing increased foreign investment and foreign participation at senior management level."

Chinese companies will keep a majority stake in any joint-venture management operation, as foreign investment will not be allowed to exceed 49 per cent of the registered capital of an aviation business.

The first joint venture airport is being developed in Wuhan, central China. New World Infrastructure of Hong Kong has agreed to provide capital and management expertise to build the new Tianhe Airport.

Beijing launched a plan to build, expand and upgrade China's airports over five years, starting in 1996. This year alone, the government expects to build or expand 13 country-wide.

Central government spending is focused on investment in air traffic management, flight operations and runways. The CAAC is seeking to draw more foreign funds into long-term investment in building airports.

Under the reform plans, borrowing, lending and renting will be introduced to build and manage terminal areas. Foreign investment will be encouraged in ground service, aircraft maintenance and hotels.

Mr Xia said more airports would be listed on stock exchanges, to attract fresh funds for expansion. Beijing Capital International Airport will be restructured for international flotation.

PROVISIONING REQUIREMENTS EXTRA CAPITAL MAY HAVE TO BE RAISED TO BUTTRESS SOLVENCY

Thailand tightens bank rules

By Ted Bardacke in Bangkok

Thailand's central bank yesterday tightened provisioning requirements for the country's commercial banks, bringing loan classification rules up to international standards and meeting a key stipulation of the country's agreement with the International Monetary Fund.

The new rules, to be phased in from July 1, are expected to lead to additional provisioning of more than Bt100bn ($2.6bn) by Thailand's banks this year alone, the central bank said.

Thai banks are scrambling to raise new capital to meet the new requirements with mixed success. They have been given until the end of 2000 to meet the full new provisioning levels.

The hefty new provisions required may force Thai banks to raise more capital than they originally intended, analysts said.

Yesterday Moody's, the international rating agency, downgraded Thailand's five top banks to far below investment grade, saying that "reported levels of delinquent loans do not... reflect the full impairment of banks' asset portfolios" and that the amount of new capital raised so far "is still well below levels needed to restore the system to full solvency".

Under the new rules, banks must set aside reserves equal to 1 per cent of all lending and 2 per cent for all loans on which one payment had been missed.

Additionally, loans for which a payment has not been made for more than three months will be classified as non-performing or substandard.

Previously borrowers could be behind on payments for six months before the loans were classified as non-performing. The provisioning rate for substandard loans was raised to 20 per cent of the value of the loan from 15 per cent.

Doubtful loans will be those that have not been serviced for six months, compared with 12 months before, while those unserviced for over 12 months will be regarded as bad debts. Provisioning levels will be 50 per cent and 100 per cent respectively.

Banks will no longer be allowed to book accrued interest as income, nor will they be able to take collateral levels into account when classifying their loans. They will be able to deduct the value of collateral from provisioning amounts but only under much tighter valuation standards.

Finally, the central bank is seeking to crack down on the practice of rolling over bad loans and then classifying them as performing. Loan restructuring will come under intense scrutiny from the central bank.

Power company board replaced

By Ted Bardacke

The Thai cabinet yesterday replaced most board members of the state-owned Electricity Generating Authority of Thailand (Egat) in a surprise move that could lead to labour unrest at one of the country's largest companies.

A government official told reporters that the cabinet had made the changes to "improve efficiency" but the sensitive announcement was left out of the traditional weekly review of cabinet decisions. Analysts believe the move is intended to pave the way for the further privatisation of the utility, which last year shelved plans to spin off generating units under pressure from its powerful union.

The new board includes a number of technocrats from other state agencies known to favour further private participation in the electricity sector.

Among them is Piyasvasti Amranand, secretary general of the National Energy Policy Office, who is considered by many to be Thailand's leading proponent of Egat restructuring but who is widely distrusted within the authority.

Egat is in the middle of Asia's largest independent power producer scheme, a $6bn programme that will see the authority take most of its new generating capacity from private companies, most of them from Japan, Europe and the US. But a plan to spin off some other plants, either already built or under construction, has stalled and the Egat board has resisted selling off further stakes in its listed subsidiary, Egco.

In a statement late yesterday, the Egat union said it would submit a letter of protest today to the prime minister, Chuan Leekpai, asking him to reconsider the decision immediately. It said it did not oppose any particular individuals but warned of its opposition to privatisation.

The Egat union is Thailand's strongest workers' organisation, with up to 40,000 members. In 1995 workers took to the streets and forced Banharn Silpa-archa, then premier, to backtrack on a decision to make changes to the Egat board.

Hong Kong settles down to life with its Beijing masters

John Ridding reports on the concerns of the Democratic party as opinion polls find the 'China issue' is receding in importance

On Martin Lee's wall hangs the front page of a newspaper from 1995. Democrats Surge To Victory, it reads, above a photograph of Hong Kong's Democratic party leader, brandishing a triumphant V-for-Victory sign.

Lee: 'We have no guarantees...'

As campaigning gathers pace for elections next month for the territory's Legislative Council to replace the provisional legislature which was installed at the handover last year, Mr Lee plays down the prospect of a repeat performance – at least in terms of seats.

"We [the democratic camp] are counting on the same support as in 1995, that is 65 per cent of the popular vote," he says. But that support, he predicts, would lead to half the number of seats secured in 1995, about one-quarter of the total.

Mr Lee's calculations reflect the rule changes for the forthcoming poll, the first since the territory's return to Chinese sovereignty last July.

While the number of seats remains unchanged at 60, the 20 directly elected seats will be contested under proportional representation, rather than the first-past-the-post system used in 1995.

The 30 seats going to functional constituencies, business or professional groupings, will be filled through a sharply reduced franchise, cut from some 2m to about 230,000. The remaining 10 seats will be allocated by an election committee, comprising representatives from business and social groups, and Hong Kong members of mainland political institutions.

Tung Chee-hwa, Hong Kong's post-colonial leader, says the system is in line with the Basic Law, the territory's constitution, and marks a step towards universal suffrage. The widening of the functional constituency franchise under Chris Patten, the last British governor, marked a departure from the purpose of these bodies, the government adds.

But Mr Lee and his fellow democrats view the rules as a significant step backwards. The complex rules, says the party leader, are designed to curb their presence in the legislature.

That is not Mr Lee's only concern. At the top of his list of concerns is the rule of law, including the recent decision not to prosecute Xinhua, one of Beijing's main organisations in Hong Kong, for an alleged breach of the territory's privacy ordinance. He also condemns a government bill – described by officials as a technical change – which could protect mainland institutions from some Hong Kong laws.

"This bill is a major threat to the rule of law," he says. "The perception will be that Hong Kong is moving towards the mainland system of rule by law, where the state uses laws to control the citizens."

Freedom of speech and press freedom are also on the agenda following strong criticism on Radio Television Hong Kong, the government-funded broadcaster, by a Hong Kong adviser to China.

After a demand for universal suffrage, these issues provide the main planks of the party's platform. But Mr Lee also cites broader concerns. In spite of the smooth transition, he says, and the apparent lack of interference by Beijing, China had already achieved control of the main political institutions, including the legislature. "We have no guarantees we can continue to exercise our freedoms," he says.

Nor does Mr Lee take much comfort from the international community. "Europe and the US are forfeiting their claim to be champions of democracy and human rights," he says. "I am not an advocate of a cold war, but I find it odd they are so prepared to make exceptions or give excuses for human rights issues."

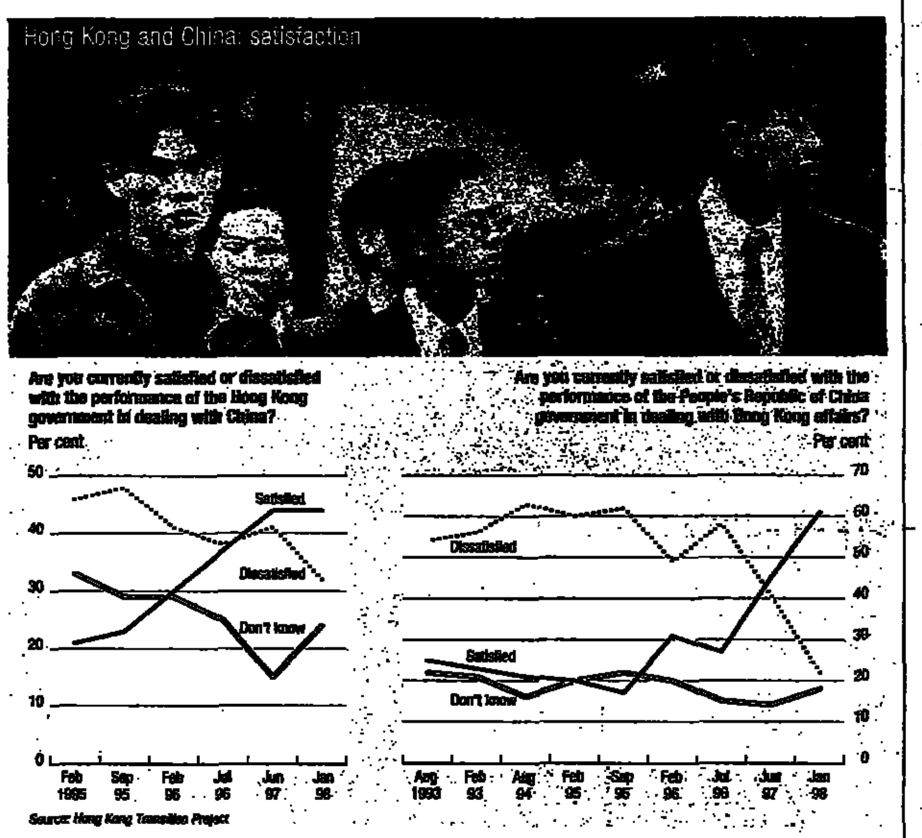
If perceptions of China are changing in London and Washington, however, they have also changed in Hong Kong. A survey by Baptist University earlier this year showed China had receded sharply among political issues, overshadowed by the economic downturn.

"The China factor is dead, or nearly so," says Michael De Golyer, head of the university's transition project. Its survey showed more than 60 per cent of respondents were satisfied with China's handling of Hong Kong affairs, compared with 17 per cent in September 1995.

For a party known to be as a robust critic of China's policy towards Hong Kong, that could spell problems at the polling booth. But Mr Lee is confident. The Democrats were never a one-issue party, and their support for the lower sectors of society strikes a chord during the economic downturn.

While Hong Kongers are no longer so fearful of China, Mr Lee is sure they still want a strong advocate in dealings with Beijing and the local government. Dissatisfaction with the provisional legislature, adds Mr Lee, will encourage voters to his camp.

Such sentiments are evident in opinion polls, most of which give the Democrats a big lead. But many are undecided. The immediate task, for Mr Lee, is to make them swing his party's way on polling day. Much harder by far, is turning gains into seats.



Source: Hong Kong Transition Project

Financial reserves surplus increases by 10%

Hong Kong's exchange fund, which holds most of the territory's financial reserves, raised its total surplus by 10 per cent in 1997 to HK$190.2bn (US$24.5bn), the Hong Kong Monetary Authority announced yesterday, **John Ridding writes.**

Combined with the foreign currency assets of the territory's Land Fund, which includes proceeds from government land sales, Hong Kong had total foreign currency assets of US$96.7bn at the end of February, the third largest in the world.

The size of the reserves has provided protection for the territory's currency peg to the US dollar, which has survived the wave of devaluations that has swept across the region since summer last year. The reserves cover notes and coins in circulation almost eight times, and Hong Kong dollar M1 money supply almost four times.

Manila in precautionary IMF deal

By Justin Marozzi in Manila

The Philippines today enters a two-year "precautionary arrangement" with the International Monetary Fund worth $1.37bn in standby aid, just five days after graduating from its last programme and 35 years of IMF supervision.

Manila has been making much of the successful completion on Friday of the country's 23rd IMF programme in three decades, particularly when the country's larger neighbours – Indonesia, Thailand and South Korea – are all returning to the IMF's fold.

President Fidel Ramos said it sent strong signals to international investors that the Philippines had been less damaged by the Asian crisis than other regional economies, a view increasingly endorsed by economists.

The new precautionary arrangement is designed to shelter the country from any further effects of the crisis in the event of renewed pressure on foreign exchange reserves. At some $9bn, they represent less than three months' imports.

"The authorities have expressed their intention to treat the arrangement as precautionary, and will draw on the credit only if necessary," the IMF said.

The arrangement contains key macroeconomic aims for the next two years, including the slowdown of growth in gross national product to 3 per cent this year and 5 per cent in 1999. Earlier this week, the government unveiled "sustainable" growth targets for the next 25 years, projecting average GNP growth of 4.9 to 6.1 per cent from 1999 to 2004.

The IMF also seeks the curbing of inflation to 8 per cent in 1998 and 6.5 per cent in 1999, and a fall in the current account deficit to 3.1 per cent of GNP this year and 2.7 per cent in 1999 (5.2 per cent last year).

Besides comprehensive banking reforms, the country needs to implement a tough package aimed at raising domestic savings, maintaining low inflation, particularly in the public sector, and reducing widespread poverty, the IMF added.

The stock market has put on some 50 per cent since January and the peso has recently stabilised at about 38 pesos to the US dollar from a low of 46.55. But uncertainty still hangs over the country, with presidential elections due in six weeks.

NEWS DIGEST

VIETNAM FINANCIAL TROUBLES

Bail-out for private bank in Ho Chi Minh City

Vietnam's central bank said yesterday it was organising the bailout of a troubled semi-private bank in Ho Chi Minh City, signalling Hanoi's determination to avoid a collapse in confidence in its debt-ridden financial sector. Local banks were hit last year by a string of defaults and corruption scandals, many still unresolved, which stem from unsecured lending by bank officials to business associates.

That has presented the communist authorities with the awkward choice of either allowing some poorly run banks to fail – thus signalling a commitment to encouraging tighter commercial practices – or propping up failing banks to avoid a collapse in already low popular confidence in the banks.

Depositors at the Nam Do joint stock bank, the latest victim, had rushed to withdraw funds in recent days after it became apparent that its liabilities exceeded its assets, put at 50bn dong ($3.85m), the official Saigon Times Daily said. A "soft loan" from the central bank cushioned the impact and ensured the bank could meet its obligations. **Jeremy Grant, Hanoi**

MALAYSIAN AGREEMENT

Finance companies to merge

Bank Negara, Malaysia's central bank, said yesterday it had secured agreements to consolidate the country's 39 finance companies into eight. The central bank had set its sights, at the start of the year, on having just five or six finance companies by yesterday's deadline and, to encourage this the government was forced to offer a one-year guarantee to protect them against further reduction in the value of the acquired assets.

"It's a good step," said Neil Saker, head of regional economic research at SocGen-Crosby. "The next step will be the banks, which will be a bit more tricky." **Sheila McNulty, Kuala Lumpur**

AUSTRALIAN TRADE

Export boost cuts deficit

Australia's improved export performance in February helped cut its trade deficit by 42.3 per cent to A$321m (US$215m) from January's A$556m, according to figures released yesterday. The improvement surprised economists, who had forecast an average of about A$500m, in line with the rapid deterioration in the country's export performance since September.

However, the Australian Bureau of Statistics survey showed exports of goods and services rose 2 per cent month-on-month, while imports remained virtually flat. In spite of the better than expected figures, economists stuck to forecasts that the downward trend would continue, largely because of the Asian economic crisis. **Mark Mulligan, Sydney**

TRADE ACCOUNT

Thai exports fall 7.9%

Thai exports fell to $4.19bn during January, down 7.9 per cent in dollar terms over the same period a year before and down 15.6 per cent from a month earlier. The figure shows that Thai exporters have yet to exploit fully the competitiveness edge gained from the baht's depreciation in the middle of last year.

Still, the country's trade account was $869m in surplus during January, as imports fell 45.1 per cent year-on-year to $3.32bn. Many Thai exports have a high import content. The current account also posted a surplus of $1.23bn, up from the $1.18bn surplus shown in December. **Ted Bardacke, Bangkok**

PAKISTAN PRIVATISATION

Sharif orders faster sell-off

Nawaz Sharif, Pakistan's prime minister, has ordered that the privatisation programme be speeded up in response to growing criticism that efforts to turn around the public sector are faltering.

The move follows growing losses at state companies such as the Water and Power Development Authority, the largest power utility, which is owed at least Rs39bn ($884m) by consumers and other companies. Officials say Pakistan Railways has run at a loss for almost a decade.

"There is a haemorrhage in the public sector which has to be stemmed in order for the country to pull out of the continuous cycle of fiscal and financial indiscipline, mismanagement and borrowing," said Mr Sharif, in a speech to a privatisation conference in Islamabad this week. **Farhan Bokhari, Islamabad**

LETTERS OF CREDIT INDONESIAN COMPANIES TO USE PILOT PROJECT BACKED BY $1bn FROM CENTRAL BANK

Jakarta push to lift trade confidence

By Sander Thoenes in Jakarta

Tired of waiting for bilateral trade guarantees, Indonesian importers and manufacturers will seek to pick up business this week using $1bn in government funds as backing for their letters of credit.

Indonesian imports, and many exports, collapsed early this year after most foreign banks began rejecting letters of credit following concern over the viability of Indonesian banks. Even a blanket government guarantee covering commercial banks was dismissed because of the heightened risk.

Now, Anton Supit, chairman of the Indonesian Footwear Association, said 16 textile companies and eight shoe producers were eligible for a pilot project to open letters of credit with six state banks, which would in turn have the letters confirmed by 10 co-operating foreign banks.

As backing for the letters, Bank Indonesia, the central bank, has already deposited $100m in each of five foreign banks and will soon deposit another $100m each in five other banks. Most of the funds will be used to back imports of foods and medicine but products such as leather, needed for shoe manufacturing, will also be eligible. Mr Supit said the aim of the project was to show that some Indonesian banks and companies could still meet obligations.

Many are still importing, using Singaporean letters of credit and full cash deposits.

"It's meant to revive confidence," Mr Supit said. "So that other countries start to believe in us again."

"It's a good start," said David Hawkins, chief executive in Jakarta of Standard Chartered, one of the participating banks. "At least it gets some trade going. It's limited in shape but it should go ahead quite quickly.

"There is no real risk for the banks because the cash is already there."

Mr Supit welcomed offers for bilateral trade guarantees but said only Australia and the US had so far come forward, and even such guarantees had only a limited effect in reviving trade.

The US guarantee would only back US products, such as leather, while most Indonesian shoe manufacturers used Argentine or Korean leather. This was cheaper and of a different quality, he said.

More importantly, Mr Supit said, bilateral guarantees applied only to the foreign bank which confirmed a letter of credit, but did not give Indonesia's cash-strapped banks any incentive to issue such letters.

Most still require 100 per cent cash deposits, something only the most successful companies can afford.

Many bilateral trade guarantee schemes have been held up until Indonesia agrees with the International Monetary Fund on a renegotiated reform package. Agreement is expected later this week.

Only about $5m of the $400m US guarantee and none of the unlimited Australian guarantee has been drawn on this year. Japan's offer of $4bn includes $1bn in pre-export financing that is not tied to Japanese products, and Germany has earmarked DM50m ($27.4m) for supporting exports by small and medium-size enterprises.

Singapore offered $2bn. It had proposed a multilateral guarantee to include pre-export financing, but other nations preferred bilateral export credits which are easier to defend at home.

Indonesian exporters also face escalating shipping costs as they have to bring in empty containers due to the fall in imports.

The Indonesian Textile Association said it had found only half the 300 containers needed this week for garment shipments.

Egypt looks to Jordan sell-off deal

By Roula Khalaf in London and Mark Huband in Cairo

An Egyptian financial company is set to win the mandate to assist in the privatisation of Jordan's cement producer, boosting Egyptian financial companies' efforts to expand in the rest of the Arab world and establish Cairo as a regional financial centre.

EFG Hermes, the leading Egyptian investment bank, is expected to be selected over nine international investment banks, including Salomon Smith Barney, Citibank and Merrill Lynch, to advise the Jordanian government on the 33 per cent sale of Jordan Cement Factories.

EFG Hermes will look for a strategic partner or float the shares on the Amman stock exchange.

Jordanian officials said EFG Hermes' experience in the privatisation of Egyptian cement producers gave it a high score on technical evaluation, in addition to having offered a highly competitive price.

EFG Hermes handled the 1996 sale of 1m shares in Egypt's Amreya Cement company.

"We elected to go alone [on this deal] rather than jointly with another company, because we felt our experience in Egypt had given us the expertise to handle this sale," said Hassan Heikal, director of investment banking at EFG Hermes.

"We can move into any country where business is relatively open, and Jordan is the one we have started to focus on," Mr Heikal added.

Jordan Cement Factories, with yearly production of 4m tonnes, enjoys a monopoly until the year 2001.

The company is estimated to have made JD8m ($11.4m) in profits on JD77m in sales last year. The government owns 49.6 per cent of the company, with most of the rest in private sector hands.

Cement privatisation is only one of several government sales planned this year The government is taking over the debts of Royal Jordanian, the national airline, and spinning it off into a debt-free subsidiary.

Some 40-60 per cent of the shares of the subsidiary will then be sold. Jordan is also selling 40 per cent of its telecoms company to a strategic partner, and the government is currently evaluating two offers on the table.

For an Arab investment bank to participate in the privatisation in another Arab country is just one sign of the efforts under way to integrate Arab markets and economies.

With a successful privatisation programme and a stock exchange with $20bn in capitalisation, Egypt is billing itself as the economic leader of a group of Arab countries which have stabilised their economies.

Egyptian officials say this group includes primarily Tunisia, Morocco and Jordan, but also Oman and the United Arab Emirates.

Egyptian officials say Cairo will be the regional financial market for these economies, with companies from other Arab states eventually listing their shares and raising capital on the Cairo stock exchange.

This role is also being claimed by Beirut, the region's former financial centre. Lebanese investment banks are also trying to expand into other Arab markets.

FAA planning fees for air traffic control

By Arkady Ostrovsky in London

The Federal Aviation Administration is to ask the US Congress next month to approve plans to introduce fees for airlines using American air traffic control.

At present the US does not charge for the use of airspace or traffic control services. Jane Garvey, the FAA's new chief said: "It is a controversial proposal and undoubtedly it will generate a great deal of discussion, both within the industry and in the Congress."

The proposal involves setting up a performance based organisation (PBO), which would run traffic control and charge airlines for its use. "The principle is simple: if you use the service you have to pay for it." Ms Garvey said that although the new body would be part of the FAA, it would be run as a private institution with its own board and a chairman. "I think of it as a public-private body."

The initiative is the result of the review by the national civil aviation commission, set up by Congress to review FAA's operations.

At present FAA is funded by Congress and the Aviation Trust Fund, which receives money from petrol and ticket taxes. Under the new plan the taxes would be replaced by fees paid by airlines.

The FAA has no direct control over the Aviation Trust funds which are often used to reduce the budget deficit, rather than support aerospace development.

The new system would give the FAA greater control over its funding and would allow it to invest in a modernisation programme. "We have to know what is coming and PBO would give us a stable and predictable funding stream," she said.

Ms Garvey did not specify how much money PBO could generate, but the FAA budget for 1999 is estimated at $9.3bn, including $5.6bn from Congress.

In 1994, the FAA tried to privatise air traffic control, but the proposal was rejected by Congress, which observers say, was "totally taken by surprise". Last year the FAA tried to introduce over-flying fees for foreign aircraft passing through its airspace. But the move caused an international outcry and several airlines including British Airways as well as Australian, New Zealand, South Korean, German and Canadian carriers successfully challenged the legality of the FAA's action.

Ms Garvey said the problem was not the principle of charging airlines for using American airspace, but the way in which the fees were set up. The FAA claims it has a good chance of pushing the legislation through because the proposals are the outcome of the Congress-initiated review.

"The critical question is how you establish the user fees. FAA does not have a solid cost accounting system. Right now we are working on it," she said.

Ms Garvey said the new system could be introduced by 2001. The FAA, which was criticsed for lack of action in adressing the year 2000 computer problem, which puts airline safety at risk; said it was now dealing with the problem. She said the upgrading software and replacing hardware could cost the FAA up to $500m.

Jane Garvey: 'It's a controversial proposal' Ashley Ashwood

Cuba launches bid to join Lomé countries

By Canute James in Kingston and Pascal Fletcher in Havana

Cuba has told the European Union it wants to be an observer in negotiations between the EU and the Africa, Caribbean and Pacific (ACP) group of countries on a new post-Lomé trade and co-operation accord.

The group of 71 developing countries have a trade and aid treaty with the EU and expect to conclude a new agreement to replace the current pact, which expires in 2000.

"What we want is to participate in the process of negotiations," a Cuban foreign ministry official said. The idea was that Cuba would take part as an observer in the EU-ACP negotiations, due to start in September, through the Caribbean grouping Cariforum.

Cuba's foreign minister, Roberto Robaina, had expressed Havana's interest in taking part in the negotiations in letters sent to the presidents of the EU and of the ACP group.

But the Cuban official said it was still too early to talk of full Cuban membership of the ACP group, which, from the procedural point of view, was not possible for the time being. A decision on Cuba's possible membership would have to come at a later date, perhaps when the new post-Lomé accord was in place.

Cuba has also said it wants to be the 16th member of the Caribbean Community (Caricom). Ricardo Cabrisas, Cuba's foreign trade minister, told a meeting of Caribbean trade ministers in Trinidad that the European Commission and the African and Pacific members of the ACP had been informed of Cuba's desire to join the group.

Caribbean members of the ACP will support Cuba's membership of the group, but this could be blocked by "political conditionalities" which determine membership, according to Caribbean officials.

There is also concern in the region that Cuba, a major sugar producer, should not be given preferential access to the EU's sugar market. Under the Lomé Convention, ACP members have guaranteed markets in the EU for a range of commodity exports.

Cuba's full membership of the ACP group would be likely to require special trade or quota arrangements to cater for the communist-ruled island's sugar and rum production. A precedent for such special arrangements already existed in the case of an existing Caribbean ACP member, the Dominican Republic.

"Cuba wants to be an indivisible part of the Caribbean in the arrangements that will supersede the current Lomé Convention," Mr Cabrisas said.

Cuba's relationship with Caricom has been limited to a joint commission for technical co-operation. Havana has asked Caricom to start talks on a free trade treaty, and the community's prime ministers will discuss the request when they meet in July. Caricom is made up of the English-speaking countries of the region, Surinam and Haiti. It has 13m people.

Caribbean members of the ACP support Cuba's request for membership of the group, said Edward Carrington, secretary general of Caricom. However, there are several problems which could hamper Cuban membership. "Cuba could face an insuperable obstacle from the Lomé Convention," he said. "There are provisions in the Convention which deal with democracy, human rights, rule of law and all of these concepts which all member states of the ACP are supposed to subscribe to."

Cuba's membership of the ACP would help it cushion the effects of the 37-year-old US economic embargo, and would help it to integrate itself into the global economy, Mr Cabrisas said. His country has been forced to make "extraordinary" efforts to secure its economic existence in the face of the embargo, he said.

NEWS DIGEST

CONTROL OF BSE

EU puts off controversial livestock ban to January

European Union nations yesterday postponed a ban on imports of potentially infectious livestock parts until January 1, 1999. However, farm ministers asked the European Commission to suggest changes to a proposed ban which had been due to come into effect today as part of an attack on BSE, or mad cow disease. The decision offers some relief to the US which had warned of the effects of a ban on trade. But there will be frustration in Washington that the threat of a ban remains.

However, the Commission is highly sceptical of the chances of producing changes which the 15 EU member countries can agree, even by next January. Showing signs of irritation, Franz Fischler, farm commissioner, said it remained a mystery what member states favoured. EU countries have several times rejected the Commission's advice on the ban and did so again yesterday when they decided on a postponement to January 1. Instead the Commission had wanted to draw up a new proposal which would then have been debated by parliament and EU nations. **Michael Smith, Brussels**

MOBILE PHONE TECHNOLOGY

NEC sets up UK venture

NEC, the Japanese electronics group, is establishing a joint venture with ERA Technology of the UK to develop infrastructure for the next generation of mobile phones. The joint venture, to be called Telecom Modus, will be located in Leatherhead, Surrey, with an initial capitalisation of £1m and is expected to employ more than 100 staff by 2000.

Telecom Modus will develop base stations for mobile phone systems capable of carrying a broad range of information from conventional conversations to full motion video. The European industry has just agreed the new system, known generically as UMTS, will be based on similar technology to that being developed for Japan's largest mobile operator NTT DoCoMo. ERA Technology, now an independent company specialising in electrical, electronic and materials engineering, has expertise in the computer software used in radio communications and in "intelligent" antennas for mobile phone systems. **Alan Cane, London**

INTELLECTUAL PROPERTY RIGHTS

US penalises Honduras

Charlene Barshefsky, the US trade representative, has announced trade sanctions against Honduras for "overt and unacceptable" piracy of US videos and television signals. Duty-free treatment is to be withdrawn from $5m of exports to the US, including fruit and vegetables, in retaliation for Honduras' failure to protect intellectual property rights. Ms Barshefsky said more action could follow if offending television stations did not stop broadcasting pirated signals. Honduras had been given a further 60 days to respond to concerns, but piracy continued "as a matter of practice", said Ms Barshefsky.

The trade action follows long-standing complaints from the Motion Picture Association, which represents seven Hollywood studios, that films produced by its members were being broadcast illegally on two Honduran television channels. Honduras has said it has acted as far as it can against the owner of the channels responsible within existing laws. Some $165m of Honduran exports have been allowed into the US duty-free each year. **James Wilson, Panama**

STRENGTH OF THE POUND GOVERNMENT FOCUSES ON POLICY OF INSTITUTIONS IN LENDING TO EXPORTERS

Minister issues appeal to banks

By Robert Chote and Richard Adams in London

Banks and financial institutions should do what they can to help manufacturers suffering from the strength of the pound, Gordon Brown, chancellor of the exchequer, told MPs yesterday. Facing sustained questioning from members of the House of Commons Treasury committee, the chancellor insisted that he would not take short-term measures to push down the pound, including intervention in the foreign exchange market.

"I don't think that, despite the pressures and all the temptations there are, we should be in any way diverted from the long-term objectives," Mr Brown said.

Sterling rose another quarter of a pfennig to close in London at DM3.097. Against a trade-weighted basket, it rose 0.1 points to 108.8 per cent of its 1990 value, another nine-year high.

The chancellor called again on industry to avoid high pay settlements that might force the Bank of England, the UK central bank, to raise interest rates more than necessary.

For the first time he made the financial community a target of his comments, urging banks to take sterling's strength into account when deciding their lending policy towards exporters. "We should all be long-termists now," Mr Brown said. He insisted that the government had played its part in rebalancing economic growth by tightening fiscal policy.

Mr Brown pointed out that two-thirds of sterling's appreciation had taken place before the Labour government took office almost a year ago. He added that the pound had changed little against the dollar and that both had risen relative to weak European currencies.

Meanwhile, Adair Turner, director-general of the Confederation of British Industry, called on the Bank of England to keep a lid on interest rates rises and help exporters suffering from the strength of sterling.

"The Monetary Policy Committee must be aware just how severe the problems are for the export sector," Mr Turner told a CBI meeting in northern England. "What we need now from the Bank of England is a signal that interest rates are at their peak. That could could help put the pound on a downward path to a more realistic level."

Mr Turner said that UK exporters had dealt with the rising pound by cutting prices. "It is now clear that many have done all they can in the short-term and that a severe setback to exports will result from sterling's present level," he said.

● The Birmingham Chamber of Commerce's latest quarterly report showed yesterday that the city, the second largest in England, was "on the brink of recession", said Richard Ireland, president of the chamber, the UK's biggest. Three out of 10 companies reported falling UK orders because of cheap imports.

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Lex, Page 16
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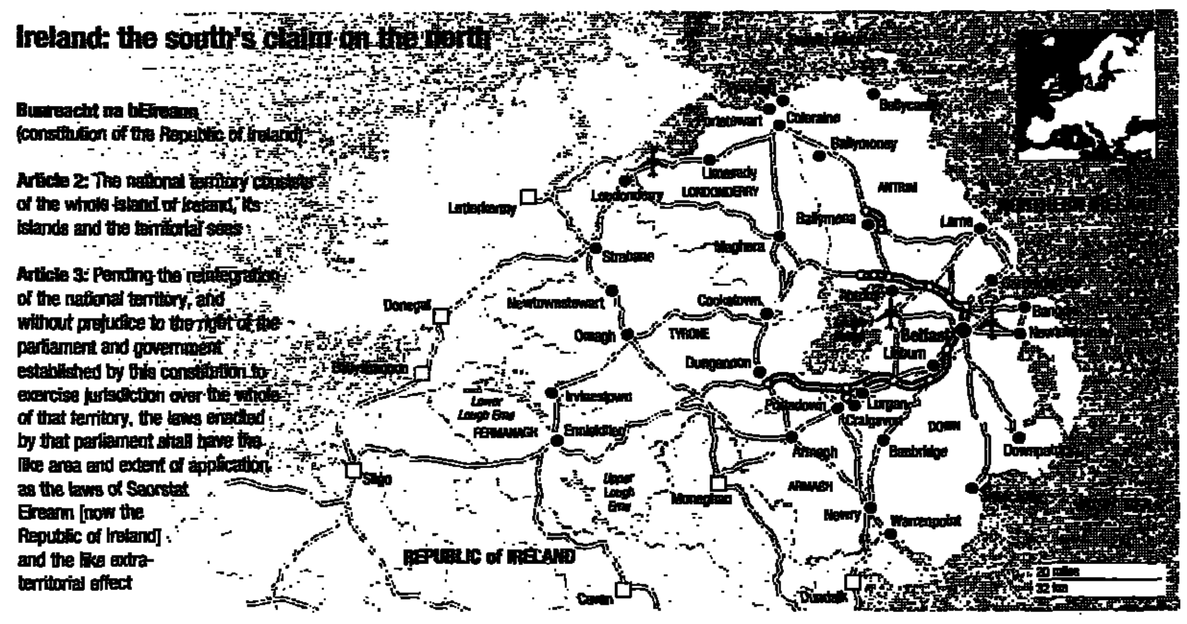
Disputes cloud race for Ireland deal

By John Murray Brown in Belfast

Ireland: the south's claim on the north



Tony Blair, the prime minister, moved to head off a crisis in the Northern Ireland peace talks yesterday as big differences emerged over proposals for an assembly for the region.

Amid signs that the process may be faltering, Mr Blair held discussions with John Hume, leader of the moderate nationalist Social Democratic and Labour party yesterday, and is due to meet Bertie Ahern, the Irish prime minister, in London today to finalise the outline of a deal which the two governments hope to present to the parties later this week.

As the talks turned to the issue of the future governance of Northern Ireland, nationalist politicians described unionist suggestions for a committee-style government for the region based on proportionality, as little more than "a glorified county council".

At the start of the day, David Trimble, leader of the Ulster Unionist Party, the largest pro-British party, broke with the convention of confidentiality governing the talks to lambast the cabinet-style government proposed by the SDLP.

Separately, Mr Trimble was involved in a heated exchange with David Andrews, the Irish foreign minister, over the proposed amendments to territorial claims over Northern Ireland which appear in two articles of the constitution of the republic.

Mr Trimble said: "To define the nation as all the people on the island, and to define the territory as being the entire island is failing to recognise the existence of Northern Ireland."

As new fault lines emerged, Mr Blair held separate telephone conversations with Lord Alderdice, leader of Northern Ireland's non-sectarian Alliance party, and Gerry Adams, president of Sinn Féin, political wing of the Irish Republican Army. Mr Blair's staff said he would contact the two small anti-nationalist "loyalist" parties later in the week.

A spokesman from Mr Blair's office said the discussions were "part of the continuing process of taking forward the talks".

The extent of the acrimony between the parties was underscored when Lord Alderdice described the unionist proposals as "unworkable and unrealistic", accusing Mr Trimble of negotiating through the media. An SDLP spokesman said there were "significant gaps between the parties; it shouldn't be underestimated". In publicly airing his misgivings outside the talks, Mr Trimble is adopting a hard line which officials fear will be difficult to retreat from.

With only nine days to go to the deadline for a settlement set by George Mitchell, the former US senator chairing the talks and who yesterday set a final schedule of meetings, the latest arguments will cast new doubts over whether the talks participants can reach agreement by April 9.

Sony and Warner to pool distribution

By Alice Rawsthorn in London

Warner Music and Sony Music, two of the world's biggest record companies, are pooling facilities to create the UK's largest distribution centre for music, videos and electronic games.

It is the first time two multinational music groups have joined forces in UK distribution.

The decision by Warner, part of Time Warner, the US entertainment group, and Sony of Japan, reflects growing pressure on large companies to control costs in mature music markets.

Most have already streamlined their manufacturing operations by closing local production plants and opening centralised facilities to supply their records across Europe.

Some have pooled distribution for their subsidiaries in some European countries, but not the UK, because of the market's size and its distance from mainland Europe.

Paul Burger, chairman of Sony Music (UK), which includes soul band Jamiroquai among its artists, said his company started reviewing its distribution arrangements early last year.

It sold its video manufacturing operation at its main site at Aylesbury, 55km from London, leaving it space to expand its distribution centre there.

After the disposal Sony started negotiations with rival Warner, the company behind the group Simply Red and Irish singer Enya, to combine their distribution at an expanded facility at the site.

Sony and Warner agreed to form The Entertainment Network, a joint venture of which they will own half each.

Warner will move its distribution from London to the Aylesbury site, which will also distribute videos for Sony Pictures and Warner Bros, two of the biggest Hollywood movie studios, and video games for Sony's PlayStation subsidiary.

The joint venture will also handle distribution for other music, video and games companies.

Some of Warner's employees are expected to transfer to Aylesbury, including Gwen Pearce, operations director, who has been appointed managing director of the joint venture.

Detective team aims to 'disrupt' criminals worldwide

By Simon Buckby, Social Affairs Correspondent

The new UK National Crime Squad "will become known worldwide for its ability to disrupt those people whose criminal activities threaten this country's economy and quality of life", its chief said yesterday. The squad, to be launched today, will be first UK police organisation of modern times designed to tackle serious and organised crime throughout England and Wales.

Roy Penrose, who will be its first director general after 35 years as a detective in the Metropolitan Police Service in London, said: "We live and work in a global village and organised crime does not stop at county, regional or national borders."

The squad will have a unified command and an annual budget of £95m ($159m) provided by a compulsory levy on local police forces. It will take over from the six regional crime squads to target national and international organised crime.

Some 1,450 detectives from the 43 existing police forces will be seconded to the squad for up to five years to hunt criminals dealing in drugs, arms, organised paedophile activity, counterfeiting and illegal immigration.

The body will replace the regional crime squads established in 1964. It will work with local police forces and other agencies, such as the new Europol expected to be established later this year, the Customs and Excise investigation service and the National Criminal Intelligence Service, which leaves Home Office control today to stand independently.

The National Crime Squad will focus on the 180 people listed secretly on the National Criminal Intelligence Service ranking of top criminals. These are thought to be the core organisers, described as "heads and lieutenants", of leading organised crime gangs in the UK. Three-quarters of these are believed to be involved in drug trafficking.

Initially it will concentrate on these suspected villains rather than on individual criminal acts.

The squad will be accountable to a 17-member service authority, with representatives from local police authorities, the Association of Chief Police Officers and the Home Office. It will be chaired by Sir John Wheeler, a former minister for Northern Ireland.

Each of the 1,450 detectives on the squad will be asked to sign a "loyalty" contract desinged to keep out corrupt officers.

NEWS DIGEST

BCCI AFTERMATH

Liquidators win judgment for $10m against fugitive

The liquidators of Bank of Credit and Commerce International have won a judgment for more than $10m against a former employee who they claim misapplied the bank's funds. Moizul Haque had handled the accounts at BCCI of Control Securities, the UK property group – since renamed Ascot – formerly headed by Nazmu Virani. Mr Virani spent 15 months in prison after being convicted of false accounting and furnishing false information in relation to BCCI.

The Serious Fraud Office issued an arrest warrant for Mr Haque in April 1992, by which time he had already fled to Pakistan, where he remains a fugitive. In handing down the claim in the High Court in London, the judge cited Mr Haque's refusal to give evidence either in person or by video link.

The judgment may not bring much immediate gain for creditors unless the liquidators, Deloitte & Touche, locate UK assets apart from Mr Haque's pension fund. **Clay Harris, London**

ISLAND OF JERSEY

Draft law for financial services

Jersey's financiers are to help formulate a new law that will regulate the island's stockbrokers, investment advisers and discretionary investment managers. Up to 200 members of the £230bn ($384bn) finance industry will be asked for their views and opinions on the final drafting of the Investment Business (Jersey) Law which was lodged in draft form with the island's government yesterday. Jersey is the largest of the Channel Islands between England and France.

The law, which broadly follows the UK's Financial Services Act, will end the special arrangement whereby Jersey stockbrokers are allowed to be members of the London Stock Exchange even though they are not subject to the same level of regulation as their UK counterparts. **Philip Jeune, Jersey**

YEAR 2000 COMPUTER PROBLEM

Banks 'will miss timetable'

A survey of the world's largest banks conducted by E Banker, a technology review published by The Banker magazine, found that half will not have prepared all the computer systems critical to their business by the end of this year – the timetable recommended by many banking regulators to ensure that enough time is left for testing for the "millennium bomb" which may confuse computers when they change their date digits to "00" in 2000.

Those who will still have work to do next year include some of the world's largest banks. Crédit Agricole, ranked third in the world by the size of its equity base, said 50 per cent to 75 per cent of its critical systems would be millennium-compliant by the end of 1998.

● Computer Sciences Corporation, a leading US-owned computing services company, is seeking to fill 1,000 new technology vacancies in the UK. The company, which recently avoided being taken over by Computer Associates, another US group, said many of the new jobs will specialise on tackling the millennium "bomb". **George Graham, London**

RAILWAY COMPETITION

Date for sector 'newcomers'

Train operating companies and newcomers to the railway industry will be able to launch new rail services in competition with the existing privatised franchisees from September 1999, John Swift, the rail regulator announced yesterday. This is expected to lead to the introduction of new services to airports and between large regional centres which currently have no direct links. One plan is for a new service linking north and south Wales. "I am satisfied that robust criteria and procedures can be put into place to prevent the emergence of 'rail wars' and other activities that might not benefit passengers," he said. New operators will be able to compete for up to 20 per cent of the existing revenues of existing operators from the start of the winter [October-February] timetable next year. **Charles Batchelor, London**

WORLD CUP SOCCER

Fears over 'official' knives

World soccer's governing body Fifa has asked its marketing partner, ISL, to withdraw from sale knives with the official World Cup logo after the British government warned they might be bought by hooligans bent on violence. Although hundreds of the 10cm-blade weapons have been on sale in French shops in recent months, sensitivity about them has been heightened in the aftermath of last weekend's outbreak of violence involving English fans, which led to the death of one of them. Chris Smith, the chief UK minister of sport, said the government was bringing " a lot of pressure through diplomatic channels" to get the knives removed from sale. **Jimmy Burns, London**

CORRECTION

Millennium sponsorship deal

Guinness's millennium sponsorship deal with the Old Royal Observatory, reported yesterday, will not involve renaming Greenwich Mean Time "Guinness Mean Time". This detail was included in a press release sent to the FT in London by Guinness on March 29. The release was apparently intended as part of an April 1 spoof.

Low-fare airline may sidestep legal challenge

By Michael Skapinker, Aerospace Correspondent

British Airways is expected to sidestep legal challenges to its new low-cost airline by announcing that it will fly to destinations which are not served by other no-frills carriers.

BA is expected to announce this week that its new airline, called Go, will fly from London's Stansted airport to Rome, Milan and Copenhagen. UK fares to all three destinations are expected to be £100 ($167) return.

Debonair, which is based at London's Luton airport, flies to Rome. However, EasyJet and Ryanair, Go's principal rivals, do not serve any of the three destinations.

EasyJet has complained to the European Commission that BA is abusing its dominant position by launching Go. EasyJet has said it fears that Go will drive it out of business. Commission officials have refused to act, however, saying they can only investigate the complaint if Go can be shown to be damaging competitors' business.

Go is expected to add new destinations later in the year. But by initially avoiding routes such as Amsterdam, Barcelona, Nice and Stockholm – which are served by EasyJet and Ryanair – BA appears set to avoid any legal challenge until its business is well-established.

Go argues that it will be run independently of BA, although BA is set to underwrite the leases on the eight aircraft that the low-cost carrier will eventually use.

BA opted to enter the low-cost market after deciding that it could no longer ignore competition from Ryanair, EasyJet and Debonair. The new airlines, set up to take advantage of the completion last year of the single European aviation market, have been undercutting established carriers by offering low fares and no meals on board.

EasyJet has also complained to the Commission about BA's plans to join National Express in running the Eurostar Channel tunnel rail service between England and France.

Stelios Haji-Ioannou, EasyJet's chairman, yesterday wrote to Karel Van Miert, EU competition commissioner, saying he feared that BA planned to take a substantial equity stake in Eurostar. BA decline to comment.

Mr Haji-Ioannou wrote: "I believe that there is a pattern of behaviour emerging whereby every time British Airways feels there is a potential threat to their dominant position, such as EasyJet or Eurostar, they either try to eliminate or acquire it."

Law firm agrees Andersen link

By Robert Rice, Legal Correspondent

Wilde Sapte, one of the UK's leading law firms, yesterday reached agreement with Arthur Andersen to join the accountant's global law firm network.

Wilde Sapte will merge with Andersen's UK law firms, Garretts and Dundas & Wilson, in September. The new UK firm will have 750 lawyers and a turnover this year of £100m ($167m), making it the UK's sixth largest law firm.

The merger is a boost for Andersen in its attempt to become one of the leaders in commercial legal services worldwide. It brings to an end an 18-month search for a leading City of London banking and financial law practice to join its international law firm network, which already has 74 offices in 31 countries.

Steven Blakeley, managing partner of Wilde Sapte, will become the managing partner of the new firm and of Andersen's English law practice worldwide. Mark Andrews, senior partner of Wilde Sapte, will be the senior partner.

The new firm is expected to be called Wilde Sapte Andersen in the short term, although the Garretts name may be retained in the regions because of the growing strength of its brand.

Internationally, several Wilde Sapte offices will merge their practices with members of the Andersen Worldwide network.

In Hong Kong Wilde Sapte will merge with Ede Charlton, creating one of the strongest commercial practices in the region.

In Paris, Wilde Sapte will combine with Archibald Andersen, and in New York, J & A Garrigues Andersen and Wilde Sapte will combine their representative offices. Wilde Sapte's Tokyo office will give Andersen legal a presence in Japan for the first time.

Nick Prentice, Andersen's head of European legal services, said the accountant's aim was to be able to provide local law, English law and New York law services in the main jurisdictions around the globe.

"Our worldwide strategy is to have a significant share of the top quality and high-value transactions so that ultimately we are seen as a natural provider of legal services to the global 1,000 companies," he said.

Mr Prentice admitted that New York law capability remained a problem in the short term. Accountants are still not allowed to form alliances with law firms in the US, so once the Wilde Sapte merger has bedded down the new UK law firm might look for a merger with a US firm, he said.

Mr Blakeley said joining Andersen would give Wilde Sapte the ability to tackle the global legal services market. The accountant's resources would enable it to attract top quality corporate finance and capital markets lawyers to complement its strong banking, finance and insurance practices.

Unions see confrontation with Blair as a defining moment

The prime minister's drive to woo business has made him appear hostile to statutory workplace representation, says **Robert Taylor**

John Monks, general secretary of the Trades Union Congress, has described the confrontation with the government over statutory recognition of trade unions by employers as a "defining moment".

The unions want a law that will enable them to represent their employees in bargaining where there is "majority support among the relevant workforce".

In opposition, the Labour party committed itself to this in its manifesto for the national election nearly a year ago. The TUC believes a recognition law will help reverse the decline in the union movement over the past 18 years. Today, no more than 20 per cent of private sector employees belong to a union and collective bargaining covers well under half the workforce.

Tony Blair, the prime minister, told the TUC last September to seek a voluntary deal with the Confederation of British Industry – the largest UK employers' lobby – that would provide common ground, make business sense and maintain workplace stability.

In December, the TUC and the CBI presented a document to Mr Blair that laid out points of agreement and disagreement. Union leaders are convinced that what they saw as the subsequent toughening of the CBI's stance was due to encouragement the employers were rece:ving from Mr Blair's office. Business delegations were pleased by warm words from Geoff Norris, the prime minister's adviser on industrial relations.

The TUC has grown increasingly restive as a result. It relies on support from Margaret Beckett, the chief industry minister, and above all from Ian McCartney, her junior minister, to ensure that the promised law is to their liking. The TUC is lobbying with some effect among Labour's rank-and-file members of Parliament. The government paper detailing the proposal is imminent but every word will need the prime minister's approval.

Mr Blair never hides his disdain for the unions. He is impatient and patronising with their efforts to modernise. He does not share their collectivist values or their wish to exercise influence over public policy.

Other issues may soon strain the government-TUC relationship further. Union leaders are privately reconciled to a national minimum wage below the £4 ($6.70) an hour they would like to see, but they are concerned with the probability that any measures will exclude the under-26s. Union concern is also palpable on how the government intends to incorporate European Union social regulations on working hours, consultation rights and part-time employees into UK law.

But the government's attitude to public spending is even more important. Union economists angrily point to the Treasury commitment to reduce the proportion of gross domestic product spent by the state to 36 per cent by 2002-2003, taking the UK closer to the US and Japan and far below the levels spent by most EU countries.

The TUC is not in a militant mood. For the most part, its leaders have kept their silence and not sought confrontation with the government. Mr Monks has wanted to create a new understanding with a Labour government, accepting Mr Blair's view that unions must expect "fairness but not favours". It is this new relationship that is now at risk.

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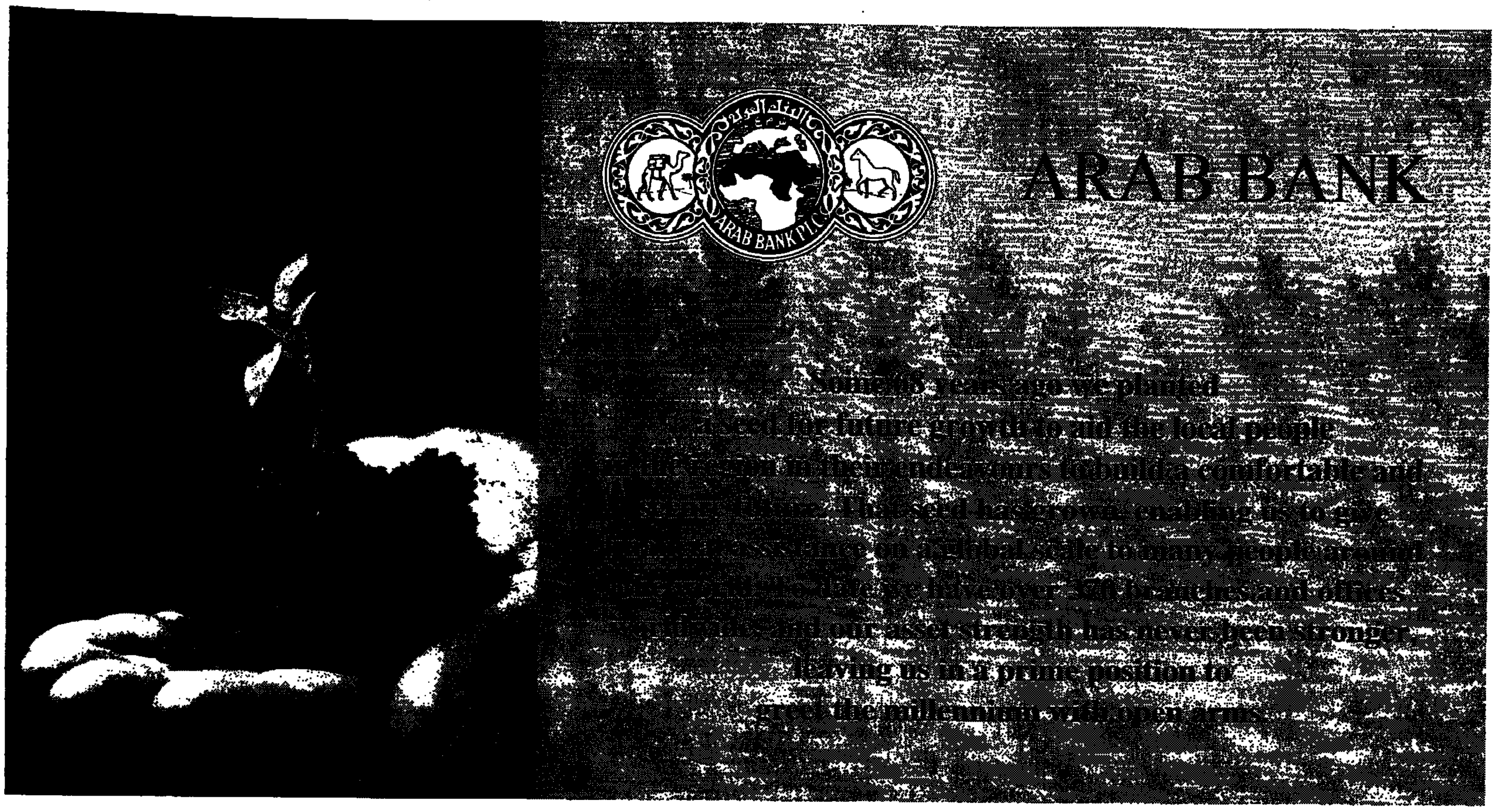

ARAB BANK GROUP

Balance Sheet as of 31 December 1997 and 1996

Assets	1997 US$('000)	1996 US$('000)
Cash and due from banks	3 664 933	4 272 371
Funds with central banks	1 974 840	1 750 741
Government Securities	1 049 930	912 919
Trading Securities	181 990	165 970
Loans and advances, net	7 578 519	6 829 633
Long term investments, net	1 733 118	1 534 317
Fixed assets, net	141 621	98 699
Other assets	483 433	338 799
Total assets	16 808 384	15 903 449
Customers' liability on guarantees, letters of credit and other contingencies	5 694 439	4 883 187
Total	22 502 823	20 786 636

Liabilities and Shareholders' equity	1997 US$('000)	1996 US$('000)
Customer deposits	10 404 932	9 680 749
Bank deposits	3 204 194	3 303 474
Borrowed funds	14 036	24 060
Cash margin	712 322	598 104
Provisions	347 079	369 660
Proposed dividends and remunerations	32 552	32 237
Other liabilities	522 325	492 706
Total Liabilities	15 237 440	14 500 990
Shareholders' equity		
Capital	84 897	84 897
Statutory reserve	79 532	78 766
Voluntary reserve	258 325	218 836
General reserve	853 487	738 626
Reserves with associated companies	343 234	311 867
Retained earnings	2 220	483
Total	1 621 695	1 433 475
Translation adjustments	(50 751)	(31 016)
Total shareholders' equity	**1 570 944**	**1 402 459**
Total liabilities and shareholders' equity	16 808 384	15 903 449
Guarantees, letters of credit and other contingencies	5 694 439	4 883 187
Total	22 502 823	20 786 636

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SOFTWARE AIRPORT CONGESTION

Keeping the runways cleared for more take-offs

Flight delays are often caused by busy runways. **Geoff Nairn** looks at a system that speeds up aircraft movements on the ground

As Air France flight AF7489 taxis to a halt at Paris Orly airport, passengers hear the familiar apology of "traffic congestion" to explain the 17-minute delay on what should have been a 75-minute flight.

Delays are common in Europe's crowded skies but many late flights are due to congestion on the ground. Orly hopes to eliminate these delays with the help of a new surface movement guidance control system (SMGCS) which it is testing.

The system uses object-oriented technology (OOT) – which builds a software application from pre-assembled blocks known as objects – to speed aircraft movements on the tarmac and optimise the use of runways.

"Europe's air traffic control problems are now largely in hand," says Xavier Fron, scientific manager with Eurocontrol, the body that co-ordinates ATC across Europe. "What must now be brought under control is congestion at the airports. Everybody recognises that this is the toughest problem."

Passenger numbers at the two Parisian airports, Charles de Gaulle and Orly, have grown from 33m to 60m in 10 years and 30 per cent of flights from French airports are delayed more than 15 minutes. Air traffic is growing at 6 per cent a year and the traditional ways of expanding airport capacity – new runways or terminals – face environmental opposition. Orly hopes that advanced SMGCS technology can delay the need for new infrastructure, and allow it to operate its existing runways at greater throughput for longer periods.

The technology has developed within a pan-European project called Mantea which involves a consortium of electronics companies and airport authorities and is partly funded by the European Commission. Orly is leading the trials, but aspects of the Mantea system are also being tested at Madrid Barajas and Rome Fiumicino airports. The system may be used in 2000 for operational traffic handling and longer-term capacity planning.

One of Mantea's aims is to optimise the aircraft departure sequence, as this has a big effect on throughput. Traditionally, the departure order is juggled manually using strips of paper bearing the aircraft call signs. There are many factors to be considered – small aircraft, for example, cannot take off directly after a 747 because of the turbulence – and the sheer weight of traffic at peak times can overwhelm the ground controllers, responsible for managing movements on the apron.

Another reason for turning to computers to control surface traffic is to improve safety. "You do not often hear about them but there are many 'near misses' when aircraft cross runways, for example," says Stéphane Paul, research manager with Alcatel, the French electronics company which is one of the participants in Mantea.

At present control procedures are based on visual observation and surface radar and aim to keep a safe separation between aircraft and vehicles on the tarmac. However, these procedures are strained in bad weather or at peak times when 30 aircraft can be moving simultaneously. "The ground controller's job has become very difficult and when there is fog or very low cloud, the controller in the tower may not even be able to see the ground," says Mr Paul.

The Mantea project aims to address these problems by providing controllers with decision support tools to improve traffic planning and monitoring. These tools are most needed in bad weather as Eurocontrol's master plan for air traffic control into the next decade assumes that airports will be able to sustain near-normal arrival and departure rates during poor visibility – today they cannot.

The Mantea project aims to automate three functions: surveillance, planning and routing, monitoring and control.

The surveillance function is perhaps the most difficult challenge as the system has to attempt to identify vehicles and aircraft moving on the apron from the blips on the surface radar screen.

Ground controllers today cannot easily identify these blips as the radio transponders that identify airborne aircraft with their call signs must be turned off on the ground to prevent interference. The Mantea consortium has thus developed mathematical formulae that attempt to identify the blips on the screen automatically by reference to flight and vehicle movement plans.

The planning and routing function in Mantea uses the flight plans filed by airlines to derive movement plans for the aircraft on the ground. That helps controllers to guide taxi-ing aircraft and to prepare a departure sequence that optimises the use of the runways.

The third Mantea function, monitoring and control, detects any potential conflicts involving aircraft on the tarmac and helps controllers resolve them. That system automatically reschedules aircraft movements when it detects deviations from the filed plans.

Mantea uses object-oriented technology (OOT) and, in particular, the popular Orbix "middleware" product from Iona Technologies, an Irish software company. By adopting OOT, each blip on the screen, once identified, becomes an "object" – an aircraft or vehicle – with associated properties that determine how it interacts with other objects.

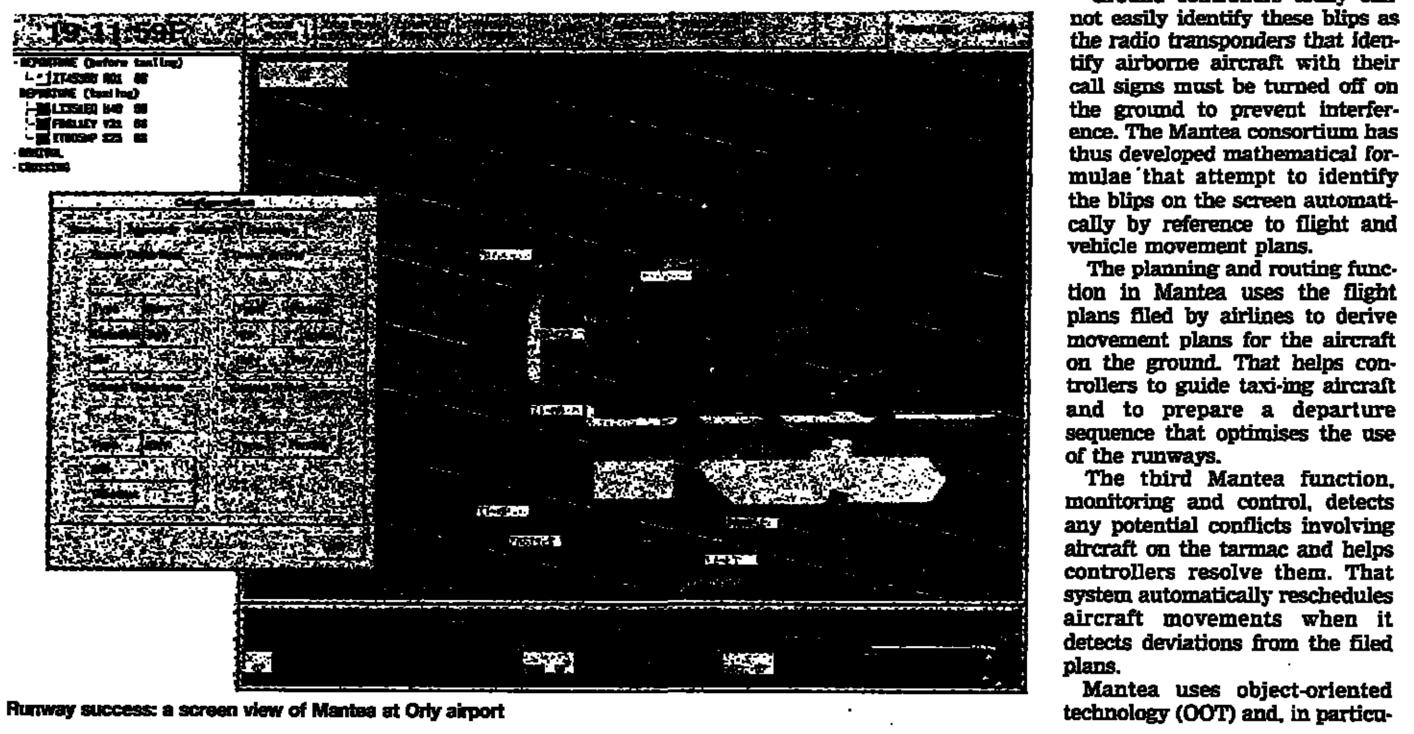
According to Mr Paul, the use of object techniques speeds the development of a complex system such as Mantea, which comprises several subsystems each built by a different contractor. The function of the Orbix middleware is to "integrate" these diverse applications into one manageable solution. "Orbix makes the distribution of processes transparent so the contractor developing one tool does not have to worry about interactions with other tools," says Mr Paul.

Eurocontrol recently announced that it would also use Orbix to develop a new air traffic management application called Oasis. This will bind together existing programs for flight planning, airspace monitoring and weather applications, each written in a particular language and running on a different computer.

Object technology was once of mainly academic interest and Mr Paul admits there were some reservations about using the technology on a critical real-time system. "We had a bit of difficulty convincing some of the partners as it was new technology when we started two years ago."

However, OOT seems to have finally moved out of the laboratory and Iona says Orbix is used by more than 3,500 businesses.

Exchange of roles: computers police aircraft safety best



Runway success: a screen view of Mantea at Orly airport

REVENUE CONTROL

Data sifted on no shows and go shows

As competition has increased in the airline industry, so has the number of tariffs, *writes Geoff Nairn*. Airlines have turned to sophisticated computer programs to juggle fare classes to maximise route revenue.

In 1993, Finnair, the Finnish carrier, offered only three booking classes but deregulation of European skies has increased competition dramatically. Finnair has responded with up to 30 fares and 15 booking classes on its most contested routes.

"Our goal is to optimise the revenue from each flight, but with 13m seats a year and 15 classes it is impossible for a human being to do it," says Tom Kallstrom, head of commercial automation.

Last year the airline decided to spend FM10m (£1.1m) upgrading an existing computer system to support its "revenue controllers" in forecasting demand on each route.

The Airline Revenue Enhancement software, supplied by US vendor Unisys, runs on a dedicated Unix computer at the airline's head office.

It is one of several revenue optimisation systems on the market, some built in-house by airlines, others by specialist vendors, such as the Pros program from US company Pros Strategic Solutions.

These systems take demand patterns, advance booking information, post-departure data, and fares as their input.

The data are fed into a sophisticated mathematical model and used to forecast demand by flight, segment, and booking class.

The aim is to improve decisions about the optimum number of seats for each booking class, desirability of upgrades, and the optimal number of overbookings to minimise risks of not getting a seat.

The systems must be able to track "no shows" and "go shows" – full-fare passengers who do not use their reservation, or who report for a flight with no booking.

The vendors claim their systems may improve an airline's turnover by 4 to 7 per cent. Mr Kallstrom says: "If we get a 1 per cent improvement I will be happy."

BUSINESS JARGON COMPETITION 1998

● Remember "shoddipush" and "white-anting"? Recall "referential transparency" and the strategic use of the "horseblanket"? These prize specimens of management gobbledegook were among the winners of the jargon competition we ran last year.

The Financial Times and the Management Consultancies Association are launching the 1998 business jargon competition. Three £500 prizes will be on offer, so start collecting gobbledegook horrors and watch these pages for further details.

INFORMATION TECHNOLOGY BRIEFS

Power of the pen for home shopping

The internet and technologies such as web television have renewed interest in home shopping, and opened up the possibility of revolutionising the way people shop.

But unless data such as product codes or a list of items to buy are already on screen and can be clicked on easily, home shoppers must enter the details manually – a serious barrier to widespread use.

Symbol Technologies International, a leader in hand-held scanners and barcode technology, believes it may have the answer.

The InfoPen is a barcode scanner incorporated into a standard sized ballpoint pen, designed by A.T. Cross, that allows consumers to capture and manipulate barcode data printed on products or in catalogues. The data can be transferred to a home PC and transmitted over the internet to retailers.

"The key benefit of the InfoPen is that it makes the process of product selection as simple as drawing the tip of the pen over a piece of paper about the size of a postage stamp," says John Pellaumail, director of consumer systems for Symbol.

"One of the problems with home shopping so far has been that data had to be dictated over the telephone, input by keyboard or transmitted via some other time-consuming and labour intensive alternative. With the InfoPen, dozens of barcodes can be scanned in a matter of a few seconds and transmitted to retailers at the touch of a button."

Each pen has a unique identification code, an integrated decoder and a docking station or "InfoWell". Once data has been scanned using the pen they are transmitted optically to the docking station and then to the PC.

Symbol Technologies International: Tel +44 0118 9457296

Consumer choice: the InfoPen makes home shopping easier

Notebook's lighter touch

Carrying a standard A4 notebook computer around can still be a trial because most weigh at least 3kg and are at least 1in thick. As a result, notebook PC manufacturers have been vying to produce the thinnest, lightest machine.

The latest contestant is Hewlett-Packard, which has just launched a machine called the HP OmniBook Sojourn aimed at corporate buyers.

The Sojourn weighs just 1.4Kg, measures a mere 1.8cm thick and is scheduled for launch at the end of this month priced at about £3,595 ($6,000).

"This is one of the market's truly unique and innovative notebook PCs designed for a demanding customer," claims Andrew Forsyth, H-P's notebook PC marketing manager in the UK.

The machine, housed in a sleek metallic-blue magnesium case, is built around Intel's Tillamook 233Mhz Pentium processor and features 64Mb of memory, a 2.1Gb hard disk and a 12.1in TFT (thin-film transistor) display. The Sojourn also comes with an attachable expansion "slice", which includes a 24x CD-Rom drive, floppy disk drive and a full set of input-output ports. An optional third slice adds an expansion battery providing up to six hours of operating time.

Hewlett-Packard: www.hp.com/omnibook

Virtual planning for plant design

Prosolvia Systems, a five-year-old industrial simulation company based in Gothenburg, Sweden, has unveiled a software program, Digital Plant Technology, that brings together all the disciplines needed to plan, build, optimise and operate a complete manufacturing plant.

The software package, which runs under Windows NT, enables users to construct quickly a complete working 3D simulation of a plant, either at the planning stage or connected to and interacting fully with an existing plant. The user can evaluate, optimise and cost new ideas, so that when a real investment is made, the risks are minimised. In an existing plant the software can be used to schedule and optimise production, try out different scenarios and minimise downtime during production changeovers.

"In day-to-day operations, Digital Plant Technology enables a plant to be tuned, new ideas to be tried and machinery to be programmed within the simulation – all without disrupting ongoing production," says Morgan Harou, president of Prosolvia Systems. "Excellent communication between the simulation and the shopfloor means rapid response to, and correction of, any line problems."

Digital Plant's 3D graphics are realistic and while most simulation products are designed to run on more expensive Unix machines, the new program runs on an ordinary PC.

Prosolvia: www.prosolvia.se

Paul Taylor

INNOVATION QUICKER COOKING

Up-to-the-minute cuisine

Andrew Baxter on a system that combines microwave and gas ovens

A UK manufacturer has unveiled what is claimed to be a world first: a cooker that combines the performance of gas with the speed and convenience of microwave energy.

Stoves, based on Merseyside in north-west England, says the Accelerated Cooking System can roughly halve the cooking time for most meals. A 10lb turkey that would conventionally take 3hrs 40 minutes at 340°F would take 1hr 50mins, and would not need the normal 10-15 minutes of pre-heating.

The ACS oven is based around Rotostar, an innovation that Stoves introduced last year. The company had been trying to distribute heat uniformly from a gas oven in a way that is normally possible only with an electric fan oven. The challenge was to prevent the flow of air from the fan blowing the gas out.

Stoves designed a fan with a hollow shaft through which the gas could be delivered. This enables the gas burner head to rotate within the fan at 1,500rpm and deliver a combination of radiant and convected heat more efficiently and uniformly than other gas ovens. The system also retains the moist cooking environment for which gas is noted (burning hydrocarbons releases water, slowing the dehydration of food as it cooks).

The ACS system, says Stoves, is effectively a "turbo-charged" Rotostar, as the gas fan is combined with low-level microwave energy. If the microwave boost is switched on, a computerised control system works out which of four levels of microwave power to select.

Stoves has not yet announced product details for the system, but cookers incorporating it are expected to be available later this year, costing about $2,500.

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MANAGEMENT INSIDE SHELL

Oiling the group's wheels of change

Transformation may stop short of revising the basic structure, says **Robert Corzine**

Humility is "in" at the Royal Dutch/Shell group. "We can't succeed in the transformation without it," says one senior executive.

Perhaps, but it will be the growth in profitability rather than the spread of humility by which the present transformation will be judged.

The programme is intended to lift the traditional bureaucratic and organisational barriers that threaten to stifle innovation within the world's second-biggest company. It aims to instil a renewed sense of freedom within Shell, while at the same time preserving the cultural and behavioural "glue" that has made the company one of the world's most successful since the informal merger of Royal Dutch Petroleum and Shell Transport and Trading 90 years ago.

An important aspect of the transformation is to create businesses that reflect demands of their markets and customers, rather than businesses in line with an outdated corporate structure.

Chemicals is a case in point. In recent years the division, which was traditionally run along national lines, has performed poorly against its main competitors, such as Exxon. Executives admit that it will be another two years or so before it is at the top rung of international competitiveness.

But the crisis of performance that triggered severe cost-cutting in the chemicals business has had a silver lining, according to Evert Henke, head of worldwide chemicals: "You cannot go through a severe cost-cutting exercise and not change people's behaviour."

Part of that behavioural change is to think globally, since that is how heavily commoditised chemical markets are organised.

Chemicals is the only Shell business run on such lines, and the problems and opportunities it produces offer an insight into the dilemmas posed by the transformation.

The relationship between chemicals and rest of the Shell group is changing. "The decisions we make on investment are designed to maximise our global profit and loss statement," says Mr Henke, and not to boost the prospects of national Shell operating companies.

What happens if a national Shell chairman suggests Mr Henke invest in his country in order to boost the company's other businesses? "His political clout doesn't figure in my thinking."

But if chemicals is growing apart from other Shell businesses, might it not make sense to spin it off from the rest of the group? "That question has been asked at every level of the business," he says. "If the numbers were convincing, perhaps that would be the way to go, but they aren't."

Critics of the company, however, question the sincerity of such statements. They doubt whether the company's top managers would seriously consider such a radical step as breaking off an established part of the business, even if one of the avowed goals of the transformation is to encourage the "atomisation" of the group, albeit in the context of a "loose federation".

"Why should what happens in a remote part of a Nigerian oilfield affect a totally different business in, say, Germany?" asks one former executive, who questions the rigour with which Shell assesses its long-term structure.

There is clearly reluctance by top managers to question basic tenets of how Shell is structured and run.

"I have the greatest admiration for the 90-year-old structure," says Cor Herkströter, outgoing chairman of the committee of managing directors. "No one can say that because we didn't formally merge that there is a difference between Royal Dutch and Shell T&T."

Mark Moody-Stuart, his designated successor at the committee, rejects suggestions that Shell's collective leadership needs modernising. "We have no wish to be exactly the same as everyone else," he says. "I'm not convinced that Shell is best run by a US-style CEO with God-like powers. In many other organisations people won't do something because they are scared the leader won't like it. The CMD has a clear leader but it is a team."

But if some ideas are taboo in terms of the transformation, others are ambitious. Take the company's commitment to diversity. Shell says it wants to increase the numer of women among senior executive ranks from 4 per cent to 20 per cent in the next few years, and increase ethnic diversity at the top.

Managers believe diversity is the way to unlock the creativity and competitiveness inherent in Shell. "We need a diversity of people on our side playing the game," says Mr Moody-Stuart.

Diversity may also be crucial to sustain the transformation after the first flush of enthusiasm has faded, since it offers the promise of long-term fundamental change. But it is in exactly such imprecise and "soft" areas as diversity that Shell has stumbled in the past.

This is the last of three articles on Royal Dutch/Shell. The other two were published on March 13 and March 27.

Mark Moody-Stuart rejects idea that collective leadership needs modernising — Malcolm Watson

COMMUNICATING THE MESSAGE

Shell gets its own TV shows

"We have seen the enemy and he is us." That, in a nutshell, is the biggest threat to Shell's corporate transformation programme, *writes Robert Corzine.*

Although top managers say the message that Shell must undergo a profound cultural and behavioural change is filtering to the lower levels, it is also clear that there is still substantial resistance to change.

"I can see the terror in the eyes of the local management team," says Phil Watts, head of global exploration and production. "People hate giving up predictability, order and stability."

Concern among top managers that the message may not get through prompted Shell to put together in five weeks one of the world's biggest corporate satellite television networks.

The aim was to get the message across to lower-level staff that it was okay to do things differently, in spite of what some mid-level managers might say. "They have all seen management fads come and go," says Mr Watts. "But if they see the head of E&P saying it's okay, then they know this is for real."

Management by talk show is only part of the solution. After all, for years Shell preached the mantra that mid-level managers have all the answers. Can top executives believe that lower-level employees will feel emboldened by TV shows? Should they not seek out centres of resistance to transformation and crush them?

Senior executives wince at such words: "We spent a lot of time convincing people rather than eliminating large swathes of staff," says Mark Moody-Stuart, chairman of Shell Transport and Trading in London. "We want people to feel free to express opinions. Change can also destroy something very important. Transformation is about winning hearts and minds."

Resistance has been especially strong in western Europe, where national Shell companies argued that they would "lose their localness" if a regional oil products business was established.

Mr Moody-Stuart admits a "certain amount of mutual parting" in Europe, but shies away from describing it as sacking recalcitrant managers: "If someone is plainly dishonest or malicious, no one has a problem firing them. If a human being has different views then it's parting company."

John Hofmeister, overseeing the transformation, says outsiders should not judge too harshly: "When Jack Welch was transforming General Electric in the US, important steps were taken in the first two or three years but the outside world didn't see much change. Shell is at that point now."

Britton with his recyclable plastic containers — Tony Andrews

TECHNOLOGY PLASTIC CONTAINERS

A can-do solution to an old problem

Andrew Baxter on a stackable, recyclable can

For decades, ordinary lever-lid metal cans have been used to hold everything from treacle to paint. Now the traditional can faces a new challenge from plastic.

A UK-based plastics innovator has found a way to make a stackable, recyclable container from PET (polyethylene terephthalate) in one operation, including an extremely rigid box-section rim with a large "undercut".

This is something the plastics industry has been trying to achieve for years. At present, plastic cans must be made in a complex, two-part process – the body is blow-moulded and the rim is welded on top.

Inventor Jonathan Britton and two other UK plastics industry entrepreneurs, John Skerratt and John Hibbert, got together with solicitor Richard Graham last year to form the Plastic Can Company (*www.canopet.com*). They are officially launching the concept this week at Pakex 98, a UK packaging exhibition.

The story began in 1994 when Mr Skerratt asked Mr Britton if he could find an economical way to make a PET version of small metal paint cans. "These cans have a heavy undercut, which meant that you could not blow-mould them or collapse a core," says Mr Britton.

After 18 months of trial and error, Mr Britton found a solution by adapting the standard way to make PET bottles and other shapes. This involves using injection moulding to make a pre-form, which is then heated, stretched, and blow-moulded under pressure.

Mr Britton decided to make a pre-form with a rim on it already, and then follow the same route, making the blow nozzle the same shape as the top of the can.

It worked on a small scale. Subsequently, Aoki, the Japanese producer of stretch blow-moulding machines, made some 750ml cans – the size used, typically, for gloss paint – for the UK company and a 2½-litre version, as used for large cans of emulsion paint.

A one-piece plastic can with lever lid may have important implications for makers and users of cans, and material suppliers. Even if the can itself was no less expensive, making the tooling for the lid would be a fraction of the price of that for a screw-top jar, says Mr Britton.

The design may open the way to using all-PET cans for solvent-based paints. Other plastics are too similar to these paints chemically, but a one-piece PET can and lid may be 30 per cent cheaper for paint manufacturers than metal cans, Mr Britton estimates.

The design is creating interest throughout the packaging supply chain. It gives PET suppliers an opportunity to broaden their market, just now dominated by carbonated soft drink or water containers.

Mr Skerratt believes the logistics of can manufacturing may be transformed by the one-piece plastic can. Rather than buying many empty metal cans from a distant cannery, end-users could have plastic versions made on-site for an investment of about £1m ($1.67m), saving on transport, he says.

With the patenting process nearly complete, the Plastic Can Company plans to license the process and will not become a manufacturer, says Mr Graham. Meanwhile, two other developments are close to being fully patented, but further from being commercialised.

One is an innovative way to form internal threads and undercuts on stretch blow-moulded bottles and containers in PET and other plastics. The other is a way to make a pressurised plastic container that can be used with an aerosol without further strengthening the base.

PROFILE HANK GREENBERG, CHIEF EXECUTIVE OF AMERICAN INTERNATIONAL GROUP

Veteran with a global eye

The head of the US's largest general insurer tells **John Authers** about strategy

The second world war provided the first big opportunity in Japan for American International Group, the largest general insurer in the US. It broke into the market by selling life insurance to General McArthur's occupying troops – and has been there ever since.

If Maurice "Hank" Greenberg, AIG's chief executive, has anything to do with it, the Asian financial crisis could yield similar results. "We haven't lost faith in Asia. Asia has an industrious population with a very high savings rate and, when all of this is over, I think some of the reforms that are being debated will make for a better region in the longer term."

Mr Greenberg, an energetic 73-year-old who succeeded the group's founder as chief executive in 1962, says AIG is more international than American. The group, which boosted profits to $3.33bn last year despite the negative impact of Asian currency depreciations, was founded in Shanghai. It operated in several Pacific Rim countries before it opened its first US office.

That tradition continues. At the end of last year, in the thick of south-east Asia's turmoil, AIG launched its second Asia infrastructure fund, an equity vehicle that raised more than $1.5bn. Mr Greenberg is also drumming up support for a recovery fund, aiming to invest at least $1bn in equities, marketable securities and corporate bonds.

Other emerging market deals struck during the past six months hint at the breadth of his ambitions. They include a joint venture with Rakhat, a local industrial conglomerate, to offer insurance in Kazakhstan; another with US Healthcare to sell health insurance in Singapore; the acquisitions of consumer credit companies in Thailand and Brazil; and the purchase of a licence to sell motor insurance in Japan.

Mr Greenberg has also been fully engaged domestically, although this month he walked away from a $2.3bn deal to buy American Bankers Insurance of Miami, losing out to Cendant, a direct marketing company. The fight was the most acrimonious the US insurance industry had seen in years, and analysts were impressed when AIG opted to withdraw, pocketing more than $100m in compensation.

Mr Greenberg seems somewhat detached from his peers in US insurance, who have become preoccupied by talk of consolidation. He feels above the fray.

"There is more supply than demand and so prices suffer. That's been a driving force for some consolidation within the industry for those who have felt they didn't have a great future on their own," he says. "That's not the case for AIG. It's a global underwriter ... We are in financial services, in many types of business."

> 'We aren't going to be in every form of financial services. I don't think anyone can have the scale to do all parts of the business effectively'

He admits that running a global collection of diverse businesses has to be handled carefully. "We have strong regional management. They have oversight to some degree from central management. It's more informal than most companies, I think. On the other hand, there's a check-and-balance system."

Mr Greenberg is famously intolerant of muddled thinking. Any regional managers who underperform, even in this informal structure, are unlikely to escape his attention. He still calls the shots even though his son, Evan, is in position to succeed. At present it appears to be Hank, and not Evan, who is mapping out the company's future.

That is likely to see further diversification from pure insurance to businesses such as aircraft leasing, derivatives and asset management. A move into mainstream banking, however, is out. "The basic business is – and will be – insurance," he says emphatically. "It doesn't mean we don't want to grow our financial services business. But we aren't going to be in every form of financial services. I don't think anyone can have the scale to do all parts of the business effectively."

As a chief executive bent on international expansion, it is not surprising he takes an overtly political role in trade issues. He is formidably well connected and has taken a more strident role in opposing protectionist elements in Congress than almost any other US business figure.

He has qualified praise for the International Monetary Fund's role in containing Asia's crisis. "The IMF started out saying they had one treatment for all illnesses, but they have been moderating their pitch as they got into the countries and saw that some greater stimulation is needed in some sectors of the economy. They aren't ideologues about having a budget surplus everywhere. Everyone has learnt a great deal in the last couple of months."

He does not hide his contempt for those in Congress who want to cut the US contribution to the IMF. "I think the IMF is the only game in town. There's no other institution. You don't try to create a new boat in the middle of the ocean. You stick with the one you are in," he says.

"I think the US Congress has got to make a contribution to the IMF. To me it's bewildering that we have multilateral organisations that we belong to but we don't pay our way. If you belong to the club you had better pay your dues. It's not just in the interests of business. It's in the national interest of the US."

Still calling the shots: American International's Hank Greenberg

JOHN KAY

Economic forces and the hairdresser

Why are some sectors dominated by a few companies, while others are highly fragmented?

Wherever you go, the oil market, the banking sector, and the car industry are dominated by a few companies. But estate agency, agriculture and plumbing are not. In most countries, retail banking is organised into chains that operate on a national basis (except in the US, where legislation was introduced to stop it). That is also true, but less so, of food retailing. And much less true if you are selling clothes.

All this is evidence that industrial structure is the product of economic forces that are general in their geographic application yet specific in their application to particular sectors. It is not generally a matter of historical accident or inevitable trends that are uniform in their incidence across the economy.

Yet only recently have there been systematic attempts to identify or explain these forces.

Market size is one important factor. Many services have to be delivered locally, so the effective market is really much smaller and more concentrated than shares of total output would suggest. No company has a very large share of retail newspaper sales, but that is not the point. Most customers have a wider effective choice of detergents than of newsagents, even though there are few detergent manufacturers and many news stands.

Thirty car manufacturers, or 10 brands of oil, or six hairdressers, provide all the choice anyone would need. But it is cheap to ship cars and oil, but not haircuts, around the world. So 30 car manufacturers can provide not only all the choice anyone could need, but all the choice everyone could need. This is not true of hairdressers, so there need to be many more hairdressers than car manufacturers.

So deciding whether an industry structure is concentrated or not depends on how you define the market. Perrier has a large share of the bottled water market, but a small share if you include tap water. And is the world pharmaceutical industry highly concentrated or not? On one measure, no: even the largest companies, such as Merck and Glaxo Wellcome, have less than 10 per cent of total sales. But if you look at most particular therapeutic categories you will find them dominated by two or three products.

These are the issues anti-trust agencies wrestle with. And the same issues confront the business analyst who has to decide whether an industry is particularly fragmented or particularly concentrated.

But it is not only the balance between scale economies and market size that matters. Banking is dominated by large organisations. I could set up a bank in my shed with only a computer, a phone and a licence from the Financial Services Authority. With no need of an expensive lunch room, well-paid executives or a branch network, it is not obvious that my costs would be higher than Citicorp's. The problem is, credibility matters a lot in a bank, and credibility tends to go with size.

That is one example of a market that has a winner-takes-all property. Customers want the most secure bank, the most effective drug, the most widely accepted credit card and the computer operating system that has the largest range of software associated with it.

These winner-take-all markets tend to become concentrated. That is why therapeutic categories (but not the pharmaceutical industry as a whole) show high concentration.

And there are other winner-takes-all, or winner-takes-most, structures. In some industries the largest research and development budget scoops the pool (perhaps less common than you might think, but an important factor in International Business Machines' former dominance). In other industries the largest advertising spend scoops the pool. That is why most fast-moving consumer goods markets are relatively concentrated.

The strength of competition is also relevant. More intense competition tends to mean fewer organisations. Weak competition protects weak companies; deregulation or decartelisation removes that protection. American airline deregulation illustrated that well. The immediate outcome was a wave of entries, but in the end there were fewer companies than before. That will in Europe too: the trends are already evident.

And yet there are many industries to which none of these factors apply. Our picture of an industrial economy is often distorted by the nature of the quoted sector. If you put your faith in the FTSE 100 index, your view of the economy is skewed towards banks, pharmaceuticals, and oil companies. If you want to invest in plumbing or farming, you cannot do it through the stock market, and your choice of estate agents is limited to a handful of small firms.

There are generalisations to be made but no general conclusions applicable to all industries. And do not believe those who tell you that concentration or globalisation is inevitable. Think of your hairdresser.

The author is the Peter Moores Director of the Saïd Business School at Oxford University and a director of London Economics. This column appears fortnightly.

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ART FAIRS NEW YORK SALEROOMS

Barbaric and decorative

Susan Moore explores rare Asian animal imagery

Asia Week in the New York salerooms and, more particularly, the phenomenal success of the International Asian Art Fair at the Park Avenue Armory (today is the last day), has proved a catalyst for a host of shows in the commercial galleries. Last year, London dealers Eskenazi Ltd stole the limelight with a spectacular offering of Han and Tang ceramic sculpture. This year sees the home dealers rally.

At the Ariadne Galleries is a rare, glorious and "barbaric" display: "Treasures of the Eurasian Steppes – Animal Art from 800BC to AD200" (970 Madison Avenue, until April 30). Spotlit within this dark, temporarily tented space gleam almost 200 small objects made mostly of bronze, silver or gold. Such portable luxury goods, usually ornament for man, horse, chariot or weapon, are all that survive of the shadowy nomadic tribes of Dark Age Eurasia.

This collection, and its handsome catalogue, explore the contribution made by these extensively travelled ancient peoples to the artistic traditions of local settled communities. While these settlements produced the luxury goods for nomadic consumption, the tribesmen themselves – as herders and huntsmen, traders and raiders – account for the cross-pollination of this vast area's regional styles. Common to them all, however, was the use of animal imagery.

Animal or zoomorphic elements range from the naturalistic to the stylised, the real and the fantastical, often embracing the two. Take, for instance, the lively, realistically modelled low-relief figure of a once gilded bronze bull, head tilted, tail-a-swishing, made in eastern central Asia/north-west China 4th-2nd century BC and used as a belt plaque. In contrast, objects like the two openwork gold plaques made in southern Siberia 4th-3rd century BC, where four bird's heads are arranged geometrically at each corner, are stylised to the point of almost unrecognisable abstraction.

A pair of gilt bronze belt plaques made in north China 3rd-1st century BC, finds naturalistic wolves and bears modelled in fairly high relief battling with some strange, striated mythical creature with raptor heads.

Only survivors of the shadowy nomadic tribes of Dark Age Eurasia

Identical examples have been excavated as far afield as a Han dynasty antiquarian's tomb in Shaanxi province to a Hun burial in Kazakhstan in the southern Urals.

Other animal forms are stylised to suit the function of the piece, like a bronze harness ring from 10th-7th century BC Iran bearing exaggerated curling ibex horns. Elsewhere, it is hard not to admire pieces – like the part gilt rectangular plaque ornamented with four stags - as masterly exercises in purely decorative stylisation.

Possibly the first collector of this art was Peter the Great, who amassed hoards said to have come from Siberia in his *Kunstkammer*, and now in the Hermitage. The museum will benefit from the sale of the catalogues of this collection which, gathered over 15 years, is being offered en bloc – the asking price, $6m.

"Animals and Animal Designs in Chinese Art" is the theme of this year's Eskenazi show (28 East 78th Street, until Saturday). While the material of the two shows overlaps with the likes of the two gilt bronze plaques from the Ordos region north of China, this exhibition embraces a wide range of materials and periods.

There are Han earthenware pottery and gilt bronze figures, for instance, Tang silver vessels, Song stoneware, Ming porcelain and carved jade, as well as bronzes where the individual elements of each creature are abstracted and arranged in strictly symmetrical patterns centred on the eyes. Naturalism is again married with fantasy in the Eastern Zhou period bronze tiger-cum-leopard, whose well-modelled muscular body has been split in two from a single head to provide a corner piece to support a vessel or tray, the whole then wildly inlaid in scrolls of silver.

For the most part, however, the appeal of the show for a contemporary audience derives from the various craftsmen's close observation of nature. Perhaps nowhere is this more appealing than in the Han Dynasty bronze incense burner in the form of a walking tortoise, inlaid with silver and gold. The plodding, purposeful motion of the animal, an emblem of longevity, has been captured precisely, as has his inquisitive beady agate eyes, wrinkled and scaly skin and silver tufted beard. No comparable example is known.

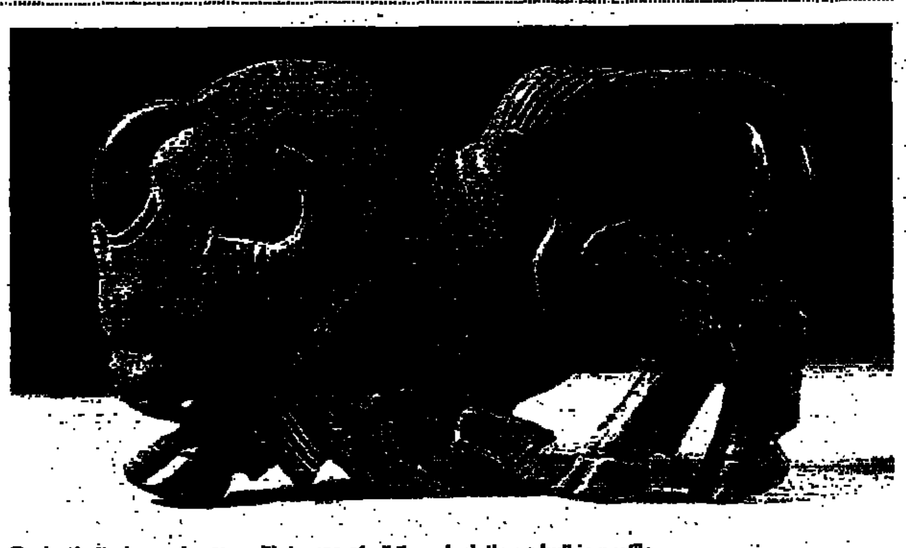
J.J. Lally & Co (41 East 57th Street) meanwhile, devotes an entire show to the arts of the Han Dynasty, most notably to the large, distinctive pottery figures from remote Sichuan province. The antithesis of those serene and silent elegant figures made for the Tang court, these pieces, fired from coarse red clay, are characterised by an earthy, robust vigour. Here is humanity, warts and all.

In the case of the comic figure of the storyteller, this humanity is nothing short of grotesque. This hunched, pot-bellied charmer, complete with blobby nose and collapsed, grimacing mouth, is having difficulty keeping his trousers up as he acts out his humourous tale, drum in one hand, the other keeping hold of his disappearing waistband.

The almost metre-high prancing horse, his strong head and neck vigorously modelled, lays claim to being the finest known model of the Han emperors' new breed of "celestial horses" imported into China from central Asia to keep the mounted warriors of the nomadic Xiongnu at bay. Until April 11.

More ancient Chinese art, this time from the Warring States and Tang periods, is shown by Paris-based dealer Christian Deydier at the Jan Krugier Gallery, alongside work on paper by Zao Wou-Ki (again at the Fuller Building at 41 East 57th Street, until April 11). At M.D. Flacks Ltd (38 East 57th Street, until tomorrow), Classical Chinese furniture is complemented by a stunning array of 40 silk embroideries, brocades and tapestries dating AD 900-1600, courtesy of London's The Textile Gallery.

These vivid survivals take us back to the Silk Route, and are further witness to the movement of craftsmen, materials, techniques and imagery along it.



Bovine belt plaque: bronze with traces of gilding, depicting a bull in profile

Contrived and richly disappointing

THEATRE

ALASTAIR MACAULAY

Give Me Your Answer, Do! Hampstead Theatre, London

Brian Friel's latest play *Give Me Your Answer, Do!* – new last year in Dublin, now receiving its British premiere – is a thick tapestry of several themes, so well textured that it moves easily between pain and humour in a sentence, and so well plotted that we keep reinterpreting the past, present and future of the characters onstage. *Mother*: "Oh yes. You were more than promising once. Threw it all up for something bigger, didn't you?" (Apparently changing subject, and looking at the glass in her daughter's hand.) "What's that?" *Daughter*: "Gin."

The play is about blighted promise and frustrated hopes, about the ironies between life and art, about the social humiliations wrought by family among friends, and about the ways in which husband/wife/child patterns do and don't repeat from one generation to the next.

This sounds a lot, and eventually Friel seems to bite off more than he chews. What's more, at times the play becomes artificial, contrived, in some of the too-polished speeches and too-composed situations it sets before us. Still, even if you find the play disappointing, as I do, you can hardly miss the complex, humane, high standards it sets itself and nearly attains. Being disappointed by *Give Me Your Answer, Do!* is a richer experience than being satisfied by many other plays.

Daisy has had great musical promise, which she chose to leave under-fulfilled; instead, she married Tom, a novelist, and had a daughter, Bridget. At the time of the play, Tom has published nothing for years; Bridget has been in hospital for several years, locked into speechless mental disturbance; Daisy cannot pay their bills, and keeps herself calm with gin. Her parents come to visit. Jack, her father, is a charming old cocktail pianist but also an occasional, compulsive thief; her mother, Maggie, a pillar of rectitude, is a recently retired doctor who refuses to acknowledge that her arthritis may confine her to a wheelchair within months.

This would be a recipe for vicious Strindbergian despair – were it not for the solid affection and solicitude that is abundantly shown between members of the family, and beautifully detailed. Still, affection and solicitude are ambiguous. We keep seeing the painful truths which characters try not to acknowledge, and we keep being made to wonder about other matters. In particular: is Tom's devotion to his now hospitalised daughter an expression and/or denial of incestuous desire for her?

For much of the play, all this is overlaid by the visit of another couple, old friends of Tom's and Daisy's, the fellow-novelist Garret Fitzmaurice and his wife Gráinne. Tom and Daisy, although outgoing and warm, play a more advanced version of the game going on elsewhere here: wound or humiliate your spouse under the cover of social intercourse. Garret, a more published, populist, and popular novelist than Tom, nonetheless is full of writerly insecurities, and Gráinne is especially good in jabbing at this Achille's heel of his. When someone says "Novelists don't retire, do they?" she pounces: "They should. Instead of stumbling on after they're dead. Creatively." And yet she – three-dimensional, like all this play's characters – regrets this sophisticated marital guerilla warfare.

This London premiere, handsomely cast, is beautifully directed by Robin Lefèvre. Admittedly, one climactic moment is staged too much like the frozen beginning of a Rossinian ensemble, with all the characters aghast; and there are one or two other touches of staginess. Yet even these moments are redeemed by Friel's writing: how stirring it is when Maggie, after lashing her husband with the maximum severity of her tongue before everyone, then says softly, "And to think that was the boy who once flooded my head with music".

No performance is more exceptional than Niall Buggy's as Tom. He shambles through the play like a lost child or holy fool, folding up again and again in unexpressed misery. Once you see him crumple, then explode in fury, then crumple again, all in a few seconds, and without straining for effect: superb, and touching. Geraldine James's flawless Daisy is an enthralling mixture of strength, and calm and resignation; she seems to have gone beyond the pain that Tom suffers, and her tender, ironic endurance becomes the deep heart of the play. Margaret Tyzack and John Woodvine are her parents, Gawn Grainger and Sorcha Cusack are the Fitzmaurices.

Despite the odd passage of theatrical contrivance, despite the excess of unresolved narrative threads (Aneirin Hughes plays, very well, an archivist whose function is obviously underdeveloped by Friel), *Give Me Your Answer, Do!* leaves a large and subtle impression. When it ends, you applaud as if some strange new sensation had entered your life and had then withdrawn.

Subtle impressions: Niall Buggy and Geraldine James in 'Give Me Your Answer, Do!' Alastair Muir

Landscapes in concert

OPERA

DAVID MURRAY

Richard Hickox and the City of London Sinfonia

As Londoners settle into an enforced period of operas-in-concert while somebody sorts out the Royal Opera, such events are proliferating. Richard Hickox and his City of London Sinfonia gave their second of three performances in the Barbican concert hall, each offering an "opera" more or less connected to *A Midsummer Night's Dream*.

"Opera", *sic*! – because Mendelssohn's *Dream* only adds incidental music to the spoken play, performed together here a couple of weeks ago; and Weber's *Oberon*, which we heard last Thursday, is a farrago, a pantomime with songs and scene-music, connected to Shakespeare only through naming three characters after Puck, Titania and its eponym.

Oberon is the only interesting example we have of its peculiar, early-19th century English genre. You may think that the National Theatre has an unhealthy taste for domineering, overweening sets, but at least those are generally inspired by the play, or anyhow the designer's reading of it. *Oberon*, written for the Covent Garden *d'antan*, represents something stranger: "opera" in which the entire course of the action was motivated by the scenery, the new effects and transformations that the theatre could triumphantly offer.

The CLS concert-performance, therefore, excluded the *raison d'être* of the piece, stripped of its visual excursions into sensational landscapes from Charlemagne's France to Egypt and back. But since that *raison* is ridiculous, and Weber's music full of delights, nobody could object; and furthermore Hickox fielded well-chosen singers (the original cast also included non-singing principals), and the welcome bonus of Timothy West to fill the musical gaps with John Warrack's literate narration.

It made a happy evening. Only Weber's overture is generally familiar, though his soprano heroine's grand "Ocean! Thou mighty monster" turns up from time to time in concert-programmes. The range and fresh variety of the rest of the score is captivating, from simple ballads to dramatic arias, ensembles and picturesque choruses. The London Symphony Chorus delivered the latter with polished strength.

The leading pair were North American: Christine Brewer lustily elegant as the heroine Reiza, Alan Woodrow urgent and forceful in her lover Huon's big, high-flying numbers, but in slower music tending to home in on true pitch from some audible distance away – a bit queasy. Pamela Helen Stephen's shapely, sexy mezzo was lovely to hear in the handmaiden Fatima's songs.

Lesser roles were expertly taken by Alan Opie, Jean Rigby and Susan Gritton. John Daszak sang a decent but uncharismatic Oberon. It was nice to hear this fragmented score (rather like the mock-exotic operas *Zaïde* and *L'Oca del Cairo* that Mozart began and then abandoned), and nice also to think that no money had been wasted on staging the whole silly show.

Sponsored by HSBC Holdings plc, with support from the Royal Philharmonic Society.

INTERNATIONAL

Arts Guide

BALTIMORE

EXHIBITIONS
Walters Art Gallery
Tel: 1-410-547 9000
● Masters of Light: Dutch Painting from Utrecht in the Golden Age. Brings together 74 works produced by painters working in the city in the first half of the 17th century; ends on Sunday, then transfers to London
● Monet: Paintings of Giverny from the Musée Marmottan. 22 paintings produced during the last 23 years of the artist's life, when his energies were focused on painting the gardens of his estate. Photo murals and works from the collection will be shown alongside; to May 31

BERLIN

DANCE
Staatsoper unter den Linden
Tel: 49-30-2035 4555
www.staatsoper-berlin.org
Tanzstunden: ballet triple bill, to music by Henze. Le Disperazioni del Signor Pulcinella, with choreography and sets by Dieer Heitkamp; Le Fils de l'Air ou l'Enfant Changé en Jeune Homme, in a staging by Henze with choregraphy by Marek Rozycki; and Labyrinth, by Mark Baldwin; Apr 2, 4

DUBLIN

EXHIBITION
Irish Museum of Modern Art
Tel: 353-1-612 9900
Brian Cronin: Fat Face With Fork. First exhibition in Ireland of work by the Dublin-born, New York-based illustrator; from today until Jun 1

GENEVA

CONCERT
Victoria Hall
Tel: 41-22-317 0017
Orchestre de la Suisse Romande: conducted by Heinz Wallberg in works by Hindemith, Schumann and Brahms; Apr 1

HELSINKI

OPERA
Finnish National Opera
Tel: 358-9-4030 2211
The Magic Flute: by Mozart. New production by Etienne Glaser, designed by Peter Tillberg. Conducted by Mikko Franck; Apr 1, 4

LAUSANNE

CONCERTS
Théâtre de Beaulieu
Tel: 41-21-643 2211
Orchestre de la Suisse Romande: conducted by Heinz Wallberg in works by Hindemith, Schumann and Brahms; Apr 2

LISBON

CONCERTS
100 Days Festival, Expo '98
London Symphony Orchestra: Riccardo Chailly conducts concert performances of Mahler's Totenfeier and the closing part of Act 3 of Wagner's Götterdämmerung. With sopranos Jane Eaglen and Janice Watson; Coliseu; Apr 1

LONDON

CONCERTS
Queen Elizabeth Hall
Tel: 44-171-960 4242
English Chamber Orchestra: conducted by Raymond Leppard in works by Debussy, Shostakovich, Satie and Bizet. With piano soloist Alexander Melnikov and trumpet soloist Serge Nakariakov; Apr 1

Royal Festival Hall
Tel: 44-171-960 4242
● Bamberg Symphony Orchestra: conducted by Ingo Metzmacher in works by Bartók and Mahler. With violin soloist Viktoria Mullova; Apr 1
● Philharmonia Orchestra: conducted by Leonard Slatkin in works by Rimsky-Korsakov, Prokofiev and Rachmaninov. With piano soloist Nikolai Lugansky; Apr 2
● London Philharmonic Orchestra: conducted by Ingo Metzmacher in works by Debussy, Turnage and Stravinsky. With saxophonist Martin Robertson; Apr 3
● BBC Symphony Orchestra: conducted by Jukka-Pekka Saraste in the UK premiere of Per Norgard's Symphony No. 2, and works by Arvo Part and Sibelius. With the Hilliard Ensemble, piano soloist Leon McCawley and the BBC Symphony Chorus; Apr 4

EXHIBITIONS
Hayward Gallery
Tel: 44-171-261 0127
www.hayward-gallery.org.uk
● Francis Bacon (1909-1992): The Human Body. Brings together important works dating from 1945 to the mid 1980s; to Apr 5
● Henri Cartier-Bresson: Europeans. Exploring changes from the 1930s to the 1970s, through the eyes of the photographer; to Apr 5

OPERA
English National Opera, London Coliseum
Tel: 44-171-632 8300
● La Bohème: by Puccini. Steven Pimlott's production is revived by Barry Atkinson and Frances Moore, and conducted by Alex Ingram; Apr 2, 4
● The Tales of Hoffman: by Offenbach. New production by Graham Vick, designed by Tobias Hoheisel and conducted by Paul Daniel/William Lacey. Cast includes John Tomlinson; Apr 3

LUCERNE

CONCERTS
Easter Festival
Tel: 41-41-226 4480
www.LucerneMusic.ch/
● Concentus Musicus Wien: conducted by Nikolaus Harnoncourt, with the Arnold Schoenberg Choir. In works by Haydn; Jesuitenkirche; Apr 1
● Orchestra of the Age of Enlightenment: conducted by Frans Brüggen in works by Bach. With soprano Lynne Dawson; Jesuitenkirche; Apr 2
● Munich Chamber Orchestra: conducted by Karl-Friedrich Beringer, with the Windsbacher Knabenchor, in Bach's Mass in B minor; Jesuitenkirche; Apr 3
● The English Concert: Trevor Pinnock conducts Bach's St. John Passion, with soloists including tenor Ian Bostridge; Jesuitenkirche; Apr 4
● Thomas Zehetmair: recital by the violinist of works by Bach; Franziskanerkirche; Apr 4
● St. Matthew Passion: conducted by Alois Koch. With singers including the Lucerne Music College and Choral Academy; Jesuitenkirche; Apr 5

MADRID

EXHIBITION
Fundació "la Caixa"
Tel: 34-1-435 4833
Rembrandt: The Human and the Natural Landscape. Previously seen in Barcelona, this exhibition comprises 91 etchings from the Rembrandt House Museum in Amsterdam; ends on Sunday

MILAN

OPERA
Teatro alla Scala
Tel: 39-2-88791
www.lascala.milano.it
Linda di Chamounix: by Donizetti. Co-production with Vienna Staatsoper conducted by Roberto Abbado in a staging by August Everding; Apr 1, 3

MUNICH

CONCERTS
Philharmonie Gasteig
Tel: 49-89-5481 8181
● Bavarian Radio Symphony Orchestra: conducted by Lorin Maazel in works by Ravel, Barber and Stravinsky; Apr 2, 3
● Rundfunkórchester des Bayerischen Rundfunks: conducted by Garcia Navarro in extracts from operas by composers including Puccini and Wagner. With soprano Gabriele Schnaut; Apr 5

NEW YORK

OPERA
Metropolitan Opera, Lincoln Center
Tel: 1-212-362 6000
www.metopera.org
Lohengrin: by Wagner. New production by Robert Wilson, with costumes by Frida Parmeggiani; Apr 2

New York City Opera, New York State Theater
Tel: 1-212-870 5570
www.nycopera.com
Emmeline: premiered in Santa Fe in 1996, Tobias Picker's opera is presented here in the same production by Francesca Zambello, with sets by Robert Israel. Based on Judith Rossner's novel, J.D. McClatchy's libretto is a version of the Oedipus myth set in New England. The cast includes Patricia Racette and the conductor is George Manahan; Apr 4

PARIS

CONCERT
Salle Pleyel
Tel: 33-1-4561 6589
Orchestre de Paris: conducted by Yuri Ahronovitch in works by Weber, Bruch and Dvorák. With violin soloist Roland Daugareil; Apr 1, 2

SAN FRANCISCO

CONCERTS
Davies Symphony Hall
Tel: 1-415-864 6000
www.sfsymphony.org
San Francisco Symphony Orchestra: conducted by Stanislaw Skrowaczewski in Elgar's Violin Concerto, with soloist Pinchas Zukerman. Programme also includes works by Wagner and Shostkovich; Apr 1, 2, 3, 4

TOKYO

CONCERT
Bunkamura
Tel: 81-3-3477 9999
New Japan Philharmonic: conducted by Mstislav Rostropovich in works by Shostakovich, with violin soloist Maxim Vengerov; Orchard Hall; Apr 3

TV AND RADIO

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● **CNN International**
Monday to Friday, GMT:
08.30: *Moneyline with Lou Dobbs*
13.30: *Business Asia*
19.30: *World Business Today*
22.00: *World Business Today Update*

● **Business/Market Reports:**
05:07; 06:07; 07:07; 08:20; 09:20; 10:20; 11:20; 11:32; 12:20; 13:20; 14:20.

At 08:20 Tanya Beckett of FTTV reports live from LIFFE as the London market opens.

LIONEL BARBER
EUROPEAN VIEWPOINT

Dwarf gains stature

The European Union has been criticised for failing to forge a foreign policy. But enlargement eastwards represents just that

When Richard Holbrooke speaks, the European Union winces. More than most, this talented and abrasive American diplomat has discredited Europe's efforts to forge a common foreign and security policy.

Mr Holbrooke brokered the Dayton accords, which ended the war in Bosnia. He relegated the Europeans to bit players in their own backyard. Soon afterwards, he struck again, accusing the EU of "sleeping through the night" when Greece and Turkey almost came to blows over an uninhabited island in the Aegean.

This week, the Europeans declared: "Enough, already." To all those who subscribe to the Holbrooke thesis that the Union is doomed to remain an economic giant and a political dwarf, the 15 member states offered a resounding riposte.

The occasion was the opening of negotiations on membership for former communist countries of central and eastern Europe, plus Cyprus. Family photos are nothing new. But this time there was a sense of history-in-the-making during the televised debate among the foreign ministers of the 15 present and 11 future members of the EU.

We admired the combination of humility and pride that Bronislaw Geremek, the Solidarity veteran turned Polish foreign minister, displayed when he was invited to speak first. We witnessed the exhilaration on the faces of the foreign ministers of the Baltic states: each liberated from the Soviet Union, each confident enough to crack jokes on camera. With one or two exceptions, the western Europeans looked stodgy by comparison.

Enlargement will stretch well into the next century. There will be terrible rows over Bulgarian cherries, Czech apples and Polish potatoes. And remember: the EU has still to come to an agreement over the cost of enlargement and the reform of the Common Agricultural Policy. But no one should ignore the dynamic impact of enlargement on the Union, nor the fact that enlargement is the best advertisement for the EU's fledgling common foreign and security policy.

The perspective of membership is exerting a powerful and positive influence over political developments in the candidate countries, anchoring democracy after the fall of the Berlin wall.

Slovakia is an exception, but Hungary is the model. By concluding treaties with neighbouring Romania and Slovakia on the treatment of ethnic minorities, the

There will be terrible rows over Bulgarian cherries, Czech apples and Polish potatoes

Hungarian government has accepted that common standards on human rights count for more than narrow tribal loyalties.

Weak coalition governments in central and eastern Europe are overcoming bureaucratic resistance to economic reform, thanks to the external pressure for compliance with the EU's single market.

The approach has a timely precedent. Weak coalition governments in western Europe have used the Maastricht criteria as "political cover" for unpopular measures needed to qualify for the single currency. The authorities have discovered it is easier to push through reform in the name of "Europe".

Finally, there is a remarkable consensus within the EU itself that some countries are on a faster track to membership than others. In spite of dire predictions, everyone has signed up to the division of the applicants into two camps: an advance guard comprising the Czech Republic, Hungary, Poland, Estonia and Slovenia, plus Cyprus; and a second group including Bulgaria, Romania, Latvia, Lithuania and Slovakia.

This consensus will be tested in future. Veteran diplomats in Brussels worry what will happen if the Latvians and Lithuanians fail to join their Baltic neighbour Estonia in the first wave of applicants in 1999 or 2000. Some wonder whether Mr Geremek speaks for the rest of his government when he says Poland understands it may not be in the first wave of new members early next century. (This is because its size and farming interest present more obstacles to membership than other smaller candidates.)

To an extent, there has been a conspiracy of silence about the foreign policy implications of enlargement. The inclusion of Estonia in the advanced group extends the EU's writ into the former Soviet Union, reaching beyond where Nato – so far – fears to tread. It puts a premium on the EU's relations with Belarus, Ukraine and Russia.

And no one knows the Russians better than their former satellites in central Europe. Witness the observation of one foreign minister during the debate over President Boris Yeltsin's decision last week to sack his whole government, including Viktor Chernomyrdin, the prime minister. "It is very simple," said the minister. "They have sacked Gazprom [the state-owned gas giant once run by Mr Chernomyrdin] from the government."

Enlargement remains a balancing act. It depends on the EU preserving the notion that everyone has an equal chance of membership and that the Union is serious about opening the doors of the club without unnecessary delay. That means coming to a deal within the next year or so on the budgetary costs of expansion east.

The other big unknown is Cyprus. Which brings us back to Mr Holbrooke. As special envoy to the Cyprus conflict, he is involved in international efforts to broker a settlement between the Greek and Turkish Cypriot communities on the divided island.

This week, Turkey warned that the opening of accession talks with the Greek Cypriots had escalated tensions in the eastern Mediterranean. The Americans fear a conflict between Greece and Turkey, two Nato allies. Mr Holbrooke, like his colleagues in Washington, thinks the best way to defuse tensions is to offer Turkey a ticket to EU membership.

It looks attractive. But the EU will not go beyond its offer of long-term membership, which it made last December in Luxembourg. Turkey is too big, too poor and too Islamist to join the central and eastern Europeans – yet. The Turks must settle for a status between family and neighbour.

Forging a new relationship with Turkey is perhaps the greatest immediate challenge for Europe's common foreign and security policy. And if it is any consolation to Mr Holbrooke, it cannot be resolved without the Americans.

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LETTERS TO THE EDITOR

Overheated riposte to view that markets undermine democracy

Mr Edward S. Herman.

Sir, Max Wilkinson's review of John Gray's *False Dawn: the Delusions of Global Capitalism* ("A free market conspiracy theory", March 28-29) suffers exponentially from all the disorders attributed to Mr Gray, and Mr Wilkinson's use of phrases such as "sinister army of speculators", "conspiracy", and "overheated verbiage" points to overheated emotions on the part of the reviewer.

Criticising Mr Gray's claim of loss of government sovereignty, Mr Wilkinson says that the author "failed to notice" that governments "often have only themselves to blame", and that "economic mismanagement, excessive borrowing, or debasing of the currency are the common causes of the collapse". But Mr Wilkinson fails to notice that the financial markets very often object to policies that will not serve the corporate bottom line, and in fact systematically punish policy moves that serve ordinary citizens.

They have gone a long way towards making social democracy out of bounds, and the policy constraints they have imposed help explain the steady global increase in inequality of income and wealth. Their policy biases have also contributed to the paralysis in dealing with global environmental issues.

As Stephan Schmidheiny of the World Business Council on Sustainable Development notes in his book, *Financing Change* (MIT Press, 1992), "markets virtually always work against sustainability", and financial markets in particular, he argues, with their focus on short-term payback, are especially ecologically insensitive. Mr Schmidheiny is not a conspiracy theorist.

Edward S. Herman,
28 Fairview Road,
Penn Valley,
Pa 19072, US

UK utility regulation still has role to play

From Ms Ruth Evans.

Sir, It is far too soon to suggest, as you do in your editorial "UK utilities", (March 26), that competition in gas and electricity reduces the need for regulation. The jury is still out on whether competition can benefit all consumers, especially the less well-off. Robust regulation to protect consumers and prevent anti-competitive behaviour remains essential.

Increased transparency in company finances and the creation of independent consumer bodies are therefore very welcome measures. We see no problem with consumer bodies becoming critical of the regulators, so long as their opinions are well-researched. Many of the proposals in the green paper reflect policies we have advocated for several years, often in the face of opposition from both industry and regulators.

Given the essential nature of the services the utilities provide, healthy public debate on how they operate can only be a good thing.

For similar reasons, a public policy framework for regulation is crucial if important social and environmental matters are not to be left to unelected regulators. It remains to be seen whether "statutory guidance" from ministers is the best means of achieving this, but at least the issue is now being addressed.

Ruth Evans,
director,
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London SW1W 0DH, UK

Year 2000 addressed

From Ms Victoria Younghusband.

Sir, Brian Robson (Letters, March 21-22) is a little unkind on the London Stock Exchange in relation to disclosure of the Year 2000 issue.

The exchange sent a circular letter to the finance directors of all listed companies on March 13 1998 referring to the abstract issued on March 5 1998 by the urgent issues taskforce of the Accounting Standards Board and entitled "Year 2000 issues: accounting and disclosures". The abstract applies to accounting periods ending on or after March 23 1998 and the exchange is encouraging all listed companies to make disclosures equivalent to those required by the abstract by December 31 1998, which may mean including such disclosures in interim statements.

The stock exchange also reminds companies of the need to consider whether, under the general disclosure obligations set out in chapter 9 of the listing rules, announcements are required in respect of potential problems or uncertainties associated with Year 2000 issues.

Victoria Younghusband,
24 Hasker Street,
London SW3 2LG, UK

Brussels and EMI ignoring German pensions timebomb

From Mr Bryan Cassidy MEP.

Sir, Reflecting on last week's European Commission and European Monetary Institute reports on which countries qualify for monetary union, your editorial, "The limits of thrift", and the excellent analysis by Peter Martin, "Europe boldly goes" (March 28-29), quite rightly stress the demographic timebomb ticking away in those countries such as France and Germany with heavy burdens of unfunded "pay as you go" pensions.

The European Commission conspicuously omitted to mention it. The EMI country analyses discreetly draw attention to it, however. Indeed, they single out for praise the countries which already have or are moving towards a high level of private pension provision – the UK, Finland, Ireland and the Netherlands.

But there are two other pension problems likely to aggravate the situation, especially in Germany. One is the excessively long period of 10 years before an employee's pension is vested – a great inhibitor to job mobility. The other is the practice of German companies using their employees' pension funds to bolster their balance sheets – a practice that gives an entirely false impression of the soundness of many German companies, as well as being unfair to their workers.

Neither of these problems is referred to either in the European Commission document on monetary union or, surprisingly, in that of the EMI.

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Sterling on steroids

Richard Adams explains the pound's rise and considers which sectors of the UK economy can live with current rates

A year ago, the idea that sterling might be worth more than DM3 was regarded with horror by economists and industrialists alike. Now this has become a reality. That raises the following questions. Is the strong pound here to stay? If it is, can the economy live with sterling at that level? And what impact will Europe's economic and monetary union have?

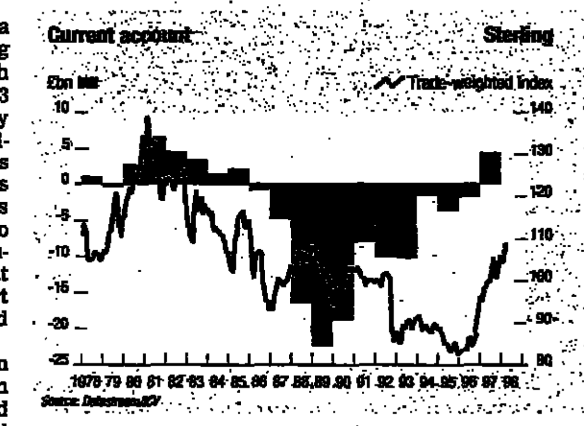
The pound's appreciation started in August 1996, when it was trading at around DM2.30, the level around which it had stabilised after its ejection from the European Exchange Rate Mechanism in September 1992.

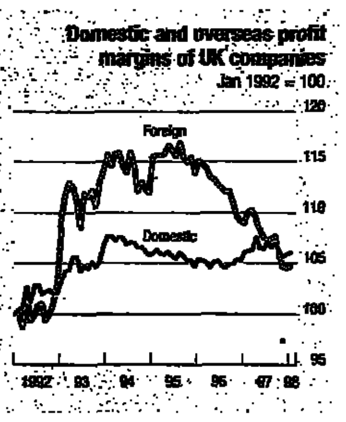
Since late 1996, its advance has been inexorable. On Monday, it reached DM3.09, its highest level since 1989. Against a basket of currencies of the UK's trading partners, sterling is at its highest for almost 10 years, and 30 per cent higher than two years ago.

Kevin Gardiner, UK economist at Morgan Stanley investment bank in London, says the pound's current level is close to matching its overvaluation of the early 1980s. "The real exchange rate is trading at levels more expensive on some measures than the 1960s," he says. Exporters are squealing.

By traditional measurements, the pound may indeed be overvalued. Most economists attempt to calculate a currency's "fair value" by looking at how much a standard basket of goods and services costs in different countries (its purchasing-power parity) and by looking at interest-rate differentials with trading partners. On this measure, sterling's "fair value" would be somewhere between DM2.50 and DM2.70. That would imply that the currency has indeed overshot and could be expected eventually to fall back towards a lower rate.

But Mark Salmon, the Deutsche Morgan Grenfell professor of financial markets at London's City University, disagrees with that conclusion. "Historically, sterling is not very high at the moment," he says. "In fact, sterling has merely regained its strength; people who feel it is overvalued are people who have been living off its weakness."





Prof Salmon argues that the pound was substantially undervalued in the years after its ejection from the ERM. Now, the introduction of the European single currency has moved the "burden of uncertainty" away from the UK to Europe, making sterling more attractive. "With British policy formulation being relatively clear, the markets are more worried about the stability of the euro," he says.

One crude way to judge which of these two views of sterling is the more plausible is to look at the effects of the currency's rise in the real economy. So far, despite all the exporters' cries of pain, the economy has not exactly buckled under the strain, at least not yet.

Simon Rubinsohn, chief economist at Capel-Cure Myers capital management, argues that the economy is better able to withstand a strong pound than during the dark days of ERM membership between 1990 and 1992. "Fundamentally I believe the manufacturing base has been significantly improved. Yes, [export] volumes have been under pressure and profit margins of exporters are being squeezed. But they still remain pretty high by recent standards."

Using a rough measure of UK unit wage costs and input prices to show relative profit margins between exports and domestic production, it appears that UK manufacturers used sterling's ejection from ERM in 1992 to take "windfall" profits. They did not take the opportunity of a gain in competitiveness to increase overseas market share. Now sterling has returned to the same level as during its membership of the ERM, exporters have cut back profit margins to compensate. But market share has not suffered.

That view is supported by the improvement in the balance of payments. In spite of the strength of sterling, which reached DM3.08 in July 1997, the UK recorded a current account surplus of £4.5bn, its first for 12 years. The improvement came mainly from higher-than-expected exports of services and "invisibles" (overseas investments, profits and interest payments), which reached a record surplus of £17.5bn.

Exports of goods, in contrast, remained in deficit by just under £13bn. But that level has been almost unchanged during the 1990s, whatever the strength of sterling. In 1995, when sterling had been in its post-ERM doldrums for three years, the deficit in goods trade still stood at £11.5bn.

If the economy in general can tolerate sterling at this level, some can stand it better than others. The UK car and electronics sectors, for example, have received a productivity boost from the heavy overseas investment from Japan and South Korea that has taken place since the start of the 1990s. Added-value per head is estimated to be 40 per cent higher in foreign-owned manufacturing companies than in UK companies, meaning those companies have a significant advantage in export markets.

"We would add that Japanese companies are more adept at having to compete with a rising exchange rate," says Mr Rubinsohn. "They have, after all, through much of the past 15 years had to contend with the appreciation of the yen, yet still managed to make massive inroads in markets around the world."

Currency fluctuations aside, the key factor behind export growth is the strength of demand in overseas markets. As the UK's largest export markets in Europe move out of the first phase of their recovery, conditions could improve for manufacturers.

Whether that proves true or not, Europe is likely to prove more important in determining the future rate of sterling than whether the pound is "really" overvalued or whether particular bits of the economy are suffering. If sterling were to enter Emu it would be likely to go in at or near the market rate at the time. Moreover, the European Union institutions, in making a choice of entry rate, would include in the calculations the unsually large contribution to the UK economy of financial services, which continue to thrive at current rates. Either way, that would point to a entry level for sterling at or near DM3.

Obviously, the pound is not likely to go into Emu for a while. Even so, with the euro to get its go-ahead in May, the single currency is still likely to exert a powerful influence on the pound, limiting any decline. And if sterling does go in, it would be likely to lock in what many people see as an anomalously high rate forever.

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COMMENT & ANALYSIS

FINANCIAL TIMES

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Wednesday April 1 1998

Cheap oil: who needs it?

The Organisation of Petroleum Exporting Countries can no longer scare the children as it did in the 1970s. But the revival of the oil cartel from its long torpor creates a disturbing echo.

In real terms, crude oil now costs about the same as 25 years ago. Few then foresaw the cataclysm which was to overtake the oil market – and the western economies – when Opec cut production and forced the price up in stages to a peak of more than $50 per barrel in today's money.

Could it happen again? The markets think not. The announcement on Monday that the 11 Opec countries and five non-members, including Norway, intended to cut production by about 1.5m barrels per day was greeted with something of a yawn. Prices eased slightly, although they are still above the nine-year low of less than $12 per barrel reached on March 16.

There are good reasons for the market's scepticism – in the short to medium term at least. High prices in the 1970s and 1980s made consumers and producers much more efficient. Less oil is now needed for each unit of economic output, and supplies are greatly diversified. Opec now controls only a third of world output compared with half in 1974. More important, high taxes have supplanted high prices as the incentive for efficiency gains in many countries. Oil producers may be selling crude for $14 per barrel, but European consumers are paying about $180 per barrel at the petrol pump. As a consequence, demand is rising only at about 2¼ per cent a year.

For these reasons, the oil cartel will have a hard struggle to raise prices much above present levels. There will be for some time a large excess of potential supply which can be pumped at almost zero marginal cost in the Middle East and less than $5 from offshore fields. This creates huge incentives to cheat. Meanwhile new technology continues to push production costs down.

Nevertheless, a modest but steady growth in demand – which might accelerate a little when Asia emerges from its financial crisis – will progressively strengthen Opec's hold over the market. Proved oil reserves rose sharply after 1986, and have remained at about 1,000bn barrels for the last 10 years.

However, most of the increase was in the Middle East. Saudi Arabia, for example, pumped only 2m b/d in 1986, compared with some 8.5m b/d in January. Total Middle East production rose by half in the decade to 1996.

Low prices will encourage this shift. It is impossible to guess what new discoveries will be made outside Opec, but the decision of Norway to support the cartel suggests how the old alliance might be strengthened. Another oil shock may be distant, but the industrial powers need to keep taking sensible doses of preventive medicine to curb demand. Fuel taxes are already high in Europe. They may need to go higher if governments are to meet their commitments to reduce global warming. This is more urgent in the US, where oil consumption per capita is twice that in Europe.

This week's move by Opec is too feeble to reduce domestic opposition in the US to increased gasoline taxes. But it might prompt a few bad memories – no bad thing if it leads policymakers to put oil back on the agenda.

EntreprenEUrs

The introduction of the euro will create a multitude of new business opportunities. The question is whether Europe's entrepreneurs and their financiers are ready to exploit them. A report by the European Commission, being presented to member states this month, seeks to improve the small business environment.

The EU, and in particular continental Europe, has a poor record on small business financing and start-ups. Bank lending still dominates in many countries, even though equity financing is often a more appropriate way of funding new companies.

The problem is not, as is sometimes supposed, as simple as a lack of money. Anecdotal evidence suggests that venture capitalists are chasing projects.

A more liquid public market for small firms, like Nasdaq in the US, would help to channel this money more efficiently.

The last few years have seen alternative markets grow rapidly, with the establishment of two European markets, Easdaq and EuroNM. The Commission has sensible proposals to take these improvements further. These include the establishment of a "one passport" procedure, to allow companies to list in several countries without preparing separate documentation, and a review of the taxation and regulation of venture capital funds.

The bigger problem, though, is on the demand side. Business start-ups in Europe are being stifled for a whole range of cultural and structural reasons.

The Commission's report highlights some of these. They include the costs and bureaucracy involved in starting up a business; the high cost of failure; the reluctance of many entrepreneurs to accept the dilution of ownership which equity finance requires; and Europe's poor patent laws.

But the obstacles of Europe's inflexible labour markets, and its over-regulated and over-subsidised product markets, may be even more important. The push for a 35-hour week in France and Italy, and the slow rate at which state aids are being withdrawn, show how far many countries are from making progress. The prospects for a more integrated European capital market are good. But this would not make the EU like the US. Individual member governments must remove the structural obstacles to business start-ups. Then, perhaps, we might see the explosion in new business that they hope Emu will bring.

Cypriot spat

Yesterday's start to the Greek Cypriot government's negotiations with the European Union could hardly have been applauded by the Turks. But their warning of permanent partition of the divided island, or even war, is dangerous and counter-productive. It plays into the hands of the Greeks by effectively lowering the standard of responsible behaviour *they* must show over the next 3-4 years in the Cyprus negotiations.

To some extent, mainland and Cypriot Turks were bound to over-react this week in ceremonies designed to parallel, parody and protest what was happening in Brussels. Turkish and Turkish Cypriot leaders announced they would form a single economic market, and threatened to integrate totally if Greek Cyprus does not drop its EU bid. Rauf Denktash, the Turkish Cypriot leader, attacked the EU for creating "complete division" in the island. Ismail Cem, Turkey's foreign minister, stepped up the rhetoric. He warned of "very dangerous" escalation in the eastern Mediterranean, with the Greek Cypriots "paving the way to another war on the island" in which Turkish Cypriots would have Ankara's total support.

Clearly, Ankara no longer feels any need or desire to try to impose moderation on Mr Denktash. This is a pity. Some 63m mainland Turks are in danger of being wagged by 200,000 Cypriot Turks. The EU has treated Turkey rather shabbily, but it has at last conceded Turkey's eligibility as a member and recently offered closer economic ties. Ankara should focus on making Brussels live up to these new promises.

If, in several years time, Greek Cypriots negotiators have totally failed to get Turkish Cypriots to join them, most EU members could face an awful choice – block Cyprus or see Greece carry out its threat to block five other applicants from eastern Europe. The Greek menace is unfortunately real, because accession requires parliamentary ratification in every EU state. But it would be massively short-sighted for the Greek side to push matters to such a crisis point that the only reason that Greek Cyprus slipped into the EU was to avoid keeping eastern Europe out. Such a crisis would undo the recent improvement in Greece's relations with the EU and give Greek Cyprus a sour EU debut.

By far the best outcome, for which all should press, would bring Cypriot Turk and Greek together under a European roof.

A bang or a whimper?

An inefficient system for allocating capital is the issue at the heart of Japan's decision to launch today's Big Bang, says Gillian Tett

From the point of view of the rest of the world, April Fool's Day seems an appropriate occasion on which to start Japan's Big Bang.

Previous deregulations of its financial markets have often been disappointing. Promises have come and gone. And a plan launched when the financial sector and the economy as a whole were at least stable is now being overshadowed by gathering economic gloom and extreme financial anxiety. So is Big Bang going to be a damp squib? And if it is, what would be the consequences?

The essential problem Japan is seeking to solve through Big Bang is that, since the second world war, the government has used the financial sector to turn household savings into cheap banking loans for industry. This built Japan's manufacturing machine. But the price has been high. As well as cheating savers, it left banks uncompetitive and capital markets underdeveloped, while it limited Tokyo's ability to act as an international financial centre. It also allowed bureaucrats to meddle in financial affairs.

The measure of Big Bang's success, therefore, depends on three outcomes. Can it revitalise Tokyo as a world financial centre after years in which it has fallen behind? Can it offer new savings choices to boost returns to consumers who currently place 45 per cent of their savings in time deposits that generally pay a miserable 0.1 per cent annual interest? And can it transform the way the world's second-largest economy uses its Y1,200,000bn ($9,000bn) pot of savings? "We know there is no alternative to Big Bang," says Yasuo Kanzaki, chairman of the Nikko research centre. Except, of course, a failure to address these issues.

On paper, the reforms look ambitious. They officially start today with two important changes: the lifting of fixed brokerage commissions on equity deals over Y50m and the partial liberalisation of foreign exchange dealing and cross-border capital transactions.

These measures were first promised 18 months ago. In addition, there are 2,000 pages of legislation to support Big Bang, which have already been submitted to parliament and will probably be passed in June. Over the next three years, these numerous measures will include those that aim to:

- Tear down barriers between banks and brokers. This would allow the institutions to compete directly in each other's territory.
- Encourage more financial innovation by making it easier for companies to introduce new products; this would be done by removing bans on such innovations as advanced derivatives and new mutual funds.
- Improve asset-management services, by allowing companies greater choice of who may manage their pension fund. Banks would also be permitted to enter the mutual fund market.
- Encourage more restructuring by allowing financial holding companies to be set up. This could make it easier to merge groups and hence to streamline operations.

If all these measures were carried out, the impact would be great. Free competition between banks and brokers, for example, could force many to close or merge. Developing the mutual fund market would create huge asset-management opportunities for western and Japanese firms. Moving retail savings out of bank accounts into securities could boost the equity and capital markets. Offering companies more freedom to choose sophisticated financial products could lead to disintermediation, reducing the role of the banks. "Japan's economy is currently based around indirect financing [banks]," says Yoshiaki Kaneko, senior managing director of the Tokyo Stock Exchange. "In future direct financing [through the capital markets] will prevail."

The reforms could even attract back some of the international business that Tokyo has lost in recent decades. While London and New York have surged, the volume of trading in Tokyo is now only about half of what it was in 1989 and the value is less than that.

But the question is: will the reforms be carried out as promised? Those who think it will point to some hopeful developments. The measures taken today are one: they are happening on time. The willingness to let Yamaichi Securities and two other large financial institutions go bust last November was another indication of the government's willingness to shake up the financial system. People are still reeling from the shock. A third sign of change is that, over the past year, a host of foreign companies such as Swiss Bank Corporation, Fidelity and Merrill Lynch have boosted their presence in Tokyo. Some foreigners, at least, seem to have confidence in Japan's financial reforms.

But as some people rush in, others remain cautious. In recent months, they point out, there have been disturbing hints that the government's commitment to reform may be wavering. One sign is that some of the reforms being implemented today contain crucial "catches". The foreign exchange reforms, for example, abolish reporting requirements on cross-border transactions over Y5m. But the Ministry of Finance quietly decided last month that transactions above Y2m must be reported to the tax office for "monitoring".

Another disquieting signal is the government's delay in tackling other tasks needed to make Tokyo an attractive financial centre. Tax reforms, such as abolishing withholding tax for foreign investors, are barely even being discussed. Attempts to reform Japan's regulatory system are, at best, confusing. This summer, for example, the government has pledged to create a new financial supervisory agency. But several "details" are still undecided, such as who will run it, who will staff it and precisely what its mandate should be. And there are only two months to go before the new regulatory authority starts.

But the biggest cause for concern is that the government does not seem to have abandoned its protective instincts. It had seemed that a shakeout of the financial sector was starting when Yamaichi Securities was allowed to collapse, but policy has since shifted.

'These measures are to prevent a meltdown and restore some confidence'

Last month, Y1,800bn of public funds were injected into the capital base of 21 banks, including strong ones that did not want the money and weak ones with an uncertain future. The government recently approved accounting changes allowing banks to disguise falling land and equity prices. It has also delayed the imposition of tighter reporting requirements on domestic banks.

It is, of course, possible that this may prove nothing worse than a blip. "These more or less emergency measures . . . [are] to prevent a meltdown and restore some confidence," says Mikio Wakatsuki, a former governor of the Bank of Japan. "If the worst is over I'm sure that . . . bigger forces will push this Big Bang reform."

It is true that the government could not return to the old system now – even if it wanted to. Change is being driven by market pressure, as well as government decree. Since 1993 large companies have increased their reliance on the capital markets for financing, issuing bonds and equity rather than borrowing from banks.

Moreover, the market pressure for reform is unmistakeable when you look at share prices. In the past year, banking and brokerage share prices have gyrated as investors attempt to force more discipline on companies. Much of the pressure is coming from foreigners: foreign investors are involved in 45 per cent of all trades on the Tokyo Stock Exchange, according to Pelham Smithers of ING Barings.

The abolition of foreign exchange controls will leave domestic companies exposed to more competition, since it will make it easier for companies and savers alike to take business offshore. Recent financial turmoil has left savers looking for new investment instruments, and convinced foreign companies that a mutual fund boom is inevitable as consumers start to abandon low-yielding bank accounts.

"I think the Big Bang train is already out of the station," argues Phillip Colebatch, president of Credit Suisse Asset Management. "Japan is now close to number one globally for us in terms of opportunity."

But there is a more subtle issue at stake. Though some change may be inevitable, the danger is that the government will seek to water down the reforms – and Big Bang will end up not as a failure, but as a disappointment.

The question is how strong-minded the government is likely to be. If it protects weak banks and brokers, for example, it will prevent the strongest becoming competitive against foreign rivals. Accounting "gimmicks" will reinforce investor cynicism about Japanese companies. Finance ministry meddling will prevent Tokyo from becoming an attractive global centre. "Arbitrary and non-transparent administration is capable of completely eviscerating the benefits of Big Bang," argues Peter del Vecchio, a Tokyo-based lawyer.*

And on this question, the timing does not look good. The economy is ailing and Japan's banks are weighed down with Y77,000bn of problem loans – a sum twice the size of Australia's economy. The ruling Liberal Democratic party is divided and nervously facing a parliamentary upper house election in July. The once-mighty Ministry of Finance and Bank of Japan (which might normally have been expected to push reforms through) are suffering crises of morale after recent corruption scandals.

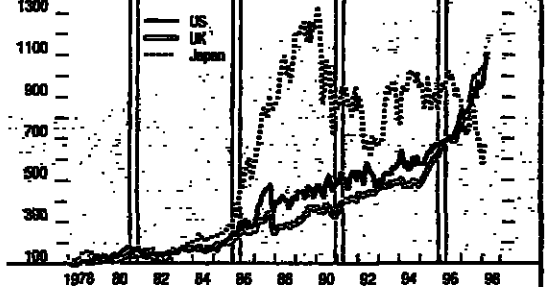
The government can avoid disappointment if it embraces radical, co-ordinated change. But the 1990s have been a decade when Tokyo has repeatedly staved off badly needed reforms. Big Bang may prove the exception. If not, what starts today could simply prove to be a painful series of whimpers.

**Big Bang or Big Whimper? Peter del Vecchio, $100, Asian Law Practice Publishing (tel: 852-2842-9606)*

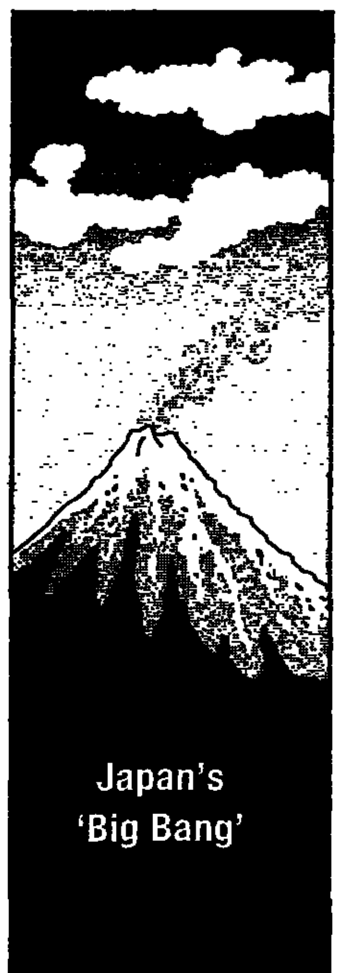
Personal sector: financial assets outstanding

As % of total (1996)	Japan	US	UK	Germany
Demand deposits	11.3	2.0	n.a.	8.9
Savings deposits	52.0	17.1	28.4	33.6
Insurance & pension funds	25.1	30.3	51.4	21.5
Securities	11.7	36.2	19.6	29.5
of which stocks	6.1	21.0	n.a.	8.9

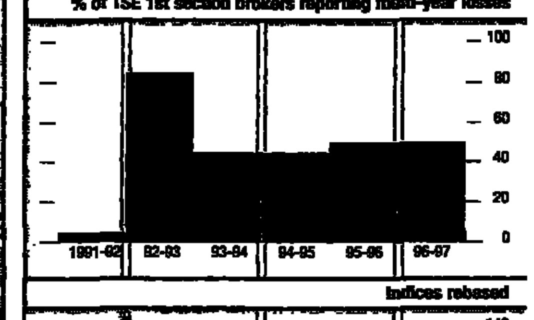
Indices rebased in $ terms



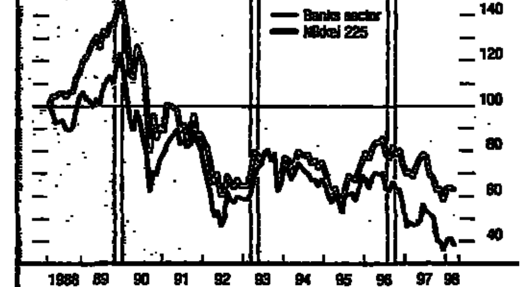
Sources: Bank of Japan, Salomon Brothers; Datastream/ICV



% of TSE 1st section brokers reporting multi-year losses



Indices rebased



OBSERVER

Iacocca's career reaches its beak

There's been a change in the pecking order at Koo Koo Roo, the oddly named Los Angeles-based purveyor of hot chicken dinners. Lee Iacocca, whose name was synonymous with Chrysler for so many years, is now ruling the roost.

The engineer from Allenville, Pennsylvania, hasn't been short of job offers since he quit the auto maker a few years back. He has been much occupied with a new venture to sell electric vehicles, but also found a nesting box on the Koo Koo Roo board. Now chairman Kenneth Berg is leaving after having heart surgery, and Iacocca has hopped on to his perch.

The man who brought you the Ford Mustang in 1964 and later twice pulled Chrysler back from the brink of bankruptcy will have plenty to do at Koo Koo Roo. The lossmaking outfit – which also owns Hamburger Hamlet – got its wings clipped when it tried moving into Washington: two of its three capital outlets closed within a year.

Iacocca and new chief executive William Allen have been given free range to break a few eggs with a spot of restructuring. One casualty will be the Color Me Mine subsidiary, where punters are invited to buy pottery then paint it. "This is more than putting paint on a surface," runs the official line. "This is about filling a need for quality family recreation." Koo Koo Roo is selling it anyway.

Observer awaits with interest Koo Koo Roo's next marketing campaign. Iacocca once fronted television adverts for Chrysler cars, but maybe he would draw the line at a peak-time TV spot dressed in a chicken suit.

Fuel ahead

Japan's Big Bang deregulation starts today – on the petrol station forecourt. After decades of claiming that it was too dangerous to let ordinary motorists fill up their tanks, the Japanese government is allowing self-service petrol stations.

The old law has certainly ensured that motorists feel wanted: petrol stations have smiling attendants in crisp white uniforms, who are often suffocatingly friendly, shouting "Welcome!" as they rush to dispense the fuel. When you're leaving, they stop the traffic and bow as you pull away.

Now lots of companies are planning to open self-service outlets – though extra fire regulations mean it's a job for serious investors. Customers wrestling with petrol hoses or colliding with other cars on the way out at least have the consolation of getting petrol up to 32 cents cheaper. There's plenty of mileage in this Big Bang.

Still tuned

A white knight has ridden to the temporary rescue of CETV. The Hong Kong-based television broadcaster headed by Robert Chua has been struggling for survival since a consortium of mainland Chinese investors reneged on a deal to take a stake earlier this year.

Wags noted CETV's formula of "no sex, no violence and no news" was leading rapidly to "no future".

Now Three Star Group, a trading conglomerate from Henan province, is paying $1m up front for a new advertising campaign. CETV says that will keep things going for a month, while the station continues to woo investors and advertisers.

Chua has appealed for support to President Jiang Zemin, but maybe he should turn instead to new premier Zhu Rongji. At his debut press conference, Zhu made flattering comments to a reporter from Phoenix, CETV's main rival: that's the sort of endorsement Chua needs.

Ploughing on

European Union farm commissioner Franz Fischler was asking for it yesterday when he used nautical references to sell his plans for reforming the Common Agricultural Policy to sceptical agriculture ministers. They were all in the same boat and had to steer the good ship CAP into the next century were just two of the salty similes.

It was left to German farm minister Jochen Borchert to say what everyone was thinking: "The Titanic was a very good ship."

Court call

It must have been a record for Britain's verbose European Commissioner Neil Kinnock: yesterday he finished a speech 15 minutes early – after Dutch prime minister Wim Kok threatened to walk out halfway through.

Kok did have the best of reasons for bailing out early from an Amsterdam talkfest on east European infrastructure. He was needed at a special sitting of parliament in The Hague to approve the marriage next month of Prince Maurits, fifth in line to the throne, and Marilène, daughter of Hans van den Broek, Kinnock's Dutch colleague in Brussels.

Kinnock could only defer to Kok's role as "constitutional Cupid". He rattled off his speech, and the premier stayed till the end.

There was a sour note later when the Calvinist SGP, which has two seats, voted against the union because the Van den Broeks are Roman Catholic. The popularity of this attitude will be tested before too long – the Dutch go to the polls in just over a month.

Faux pas encore

The plan announced yesterday by France's Société Générale to establish SG as the global brand for all international commercial and investment banking, asset management and private banking operations has been somewhat undermined by a number of exceptions.

Most prominent of these is SocGen Asset Management, which is being launched with great fanfare in the UK. So much has been invested in promoting the SocGen name that the parent bank admits this operation will only shift to SG in "due course".

The Financial Times

100 years ago

Yet More Telephone Trouble

The National Telephone Company, the target of frequent complaints about the level of service, draws attention to what it describes as "the proved fact that subscribers frequently make it impossible for the operator properly to attend to her duties because they bawl along the call-wire at the same time with other subscribers, and because they employ the call-wire for abusing the operators, frequently using very violent and brutal language to them, so much so that at times they drive them into hysterics." No one can condone the use of violent and abusive language to young ladies, even if they be telephone girls.

50 years ago

Swiss Franc Deals In Paris

Paris, March 31. The Swiss franc will be introduced on the Paris free foreign exchange market tomorrow under the same regulations governing dollars and escudos. Exporters may sell 50 per cent of their sales proceeds on the free market and the remainder to the Exchange Stabilisation Fund at the official rate. The National Bank of Belgium is establishing from Monday next a "tourist franc" for Belgian nationals at a rate of 7 French francs per Belgian franc (in place of the official rate of 4.89).

FINANCIAL TIMES
WEDNESDAY APRIL 1 1998

THE LEX COLUMN

More whimper than bang

The auguries for Japan's "Big Bang" financial deregulation today are hardly auspicious. The organisation responsible for promoting it, the Ministry of Finance, is mired in an unprecedented and debilitating corruption scandal. The brokers and banks most affected have tarnished reputations, shrinking profits and weak finances – hardly a recipe for reforming zeal. Fear of financial meltdown has also seen the government retreat from the spirit of Big Bang in a number of ways.

No wonder there is an absence of fireworks. But the problems go deeper. Tokyo may aspire to matching the City of London and Wall Street, to "free, fair and global" financial markets. But this is not something that can be delivered top-down by administrative fiat. It needs a sympathetic culture in which to flourish. Right now, that is lacking. By instinct the Ministry of Finance wishes to control, while Japanese brokers and banks are not used to competing in the domestic market.

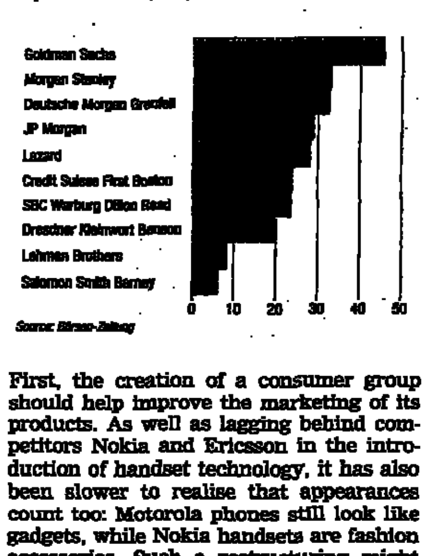
For Big Bang to succeed, these attitudes must change. Regulators and operators will have to embrace the spirit of competition. This will involve reducing capacity and improving returns, a point still poorly appreciated and unlikely to change fast. Still, it would be wrong to be too cynical about Big Bang. Japanese banks and brokers may be tardy and bewildered about how to react, but as foreigners make increasing inroads into their markets they will be forced to respond. And institutional and retail investors, fed up with corruption and sub-par returns, are hardly in the most loyal of moods.

Many of the weaker banks and brokers will not survive. Unlike in the UK, where smaller businesses were subsumed in a wave of merger and acquisition activity, rescue is unlikely. Low returns, the difficulty of firing staff and the risk of *tobashi* scandals, such as at Yamaichi, are a powerful disincentive to suitors.

Motorola

How should Motorola restructure itself? According to one report, the US-based cellular phone and computer chip company, dogged by earnings disappointments, plans to split into two divisions, one serving consumers and the other industrial customers. This would help the company address at least some of its problems.

M&A deals in Germany
By volume DM bn (1997)



Source: Börsen-Zeitung

First, the creation of a consumer group should help improve the marketing of its products. As well as lagging behind competitors Nokia and Ericsson in the introduction of handset technology, it has also been slower to realise that appearances count too: Motorola phones still look like gadgets, while Nokia handsets are fashion accessories. Such a restructuring might also help rid the company of infighting, and even produce cost savings as a result of consolidation.

But some problems will be difficult to address through a redrawing of lines: most importantly, the time taken to bring products to market. At the start of the decade, a complacent, arrogant Motorola allowed competitors to steal a couple of years' march in the switch from analog to digital handsets. Despite successes in some areas, it is still seen as a laggard in an unforgiving industry. More broadly, Motorola faces slowing sales in Asia and pricing pressures in its semiconductor business. Yesterday's share price improvement is justifiable only if investors are prepared to wait several years for a potential cultural change to produce a recovery in earnings.

German house banks

Does the dominance of US investment banks in German league tables signal the house banks' demise? House bank relations – based on lending and underpinned by long-term shareholdings and a board presence – have long been under pressure at the biggest corporates. Deregulation has allowed these larger firms to access more competitive financing through capital markets. Deutsche Bank, for example, is no longer by right Daimler-Benz's in-house adviser simply because of its large shareholding and seat on the board. Far from it.

But the Mittelstand has been slower to cut the apron strings of long-term bank financing. Commercial banks have also yet to recognise their role in creating an equity culture more favourable to initial public offerings by dynamic, young companies. And given the immature state of the German venture capital industry, their reluctance to finance start-ups is clearly harmful for the economy.

Furthermore, unwinding the web of cross-shareholdings that banks dominate should both stimulate corporate restructuring and expose sluggish managements. For bank shareholders, re-evaluating cosy, long-term relationships that produce only low-margin lending business should be no bad thing. And developing better capital markets skills should narrow the gap with the US houses. If they do not seize the opportunities their longstanding relations offer them, their nimbler competitors will.

Sterling

For all the fancy valuation models, currencies remain simple creatures; they head in one direction until given a solid reason to do otherwise. So it is with sterling, as Gordon Brown, the chancellor, and UK manufacturers are busy discovering. Mr Brown, of course, is partly to blame for sterling's level. If fiscal policy were tighter, sterling would probably be lower than it is today. But the pound's current overshooting of "fair value" is more a reflection of the vagaries of currency markets than policy deficiencies. Given that, Mr Brown is right to resist those pleading for a change of course.

What will cause sterling to retreat? Clear evidence that it is damaging the economy, coupled with the prospect of lower interest rates. Neither is yet present. Export orders may be slowing, but the outlook is still positive and margins reasonable. Nor have interest rates clearly peaked. But it is only a matter of months before they do – and before firmer evidence emerges of the damage to exporters.

Bank chief in devaluation call to aid Russian exports

By Chrystia Freeland and John Thornhill in Moscow

Sergei Dubinin, the governor of Russia's central bank, said yesterday the rouble must be gently devalued in line with inflation, to help Russia's battered exporters compete globally.

Mr Dubinin said Russia, which earlier this year came under severe pressure from sceptical investors, had overcome the impact of the Asian crisis.

"We are really satisfied with the fact we have been able to overcome the consequences of the financial crisis which happened in world markets," he said in an interview with the Financial Times.

However, the central bank, one of the most respected and stable institutions in Russia, is concerned the country's balance of trade is being eroded by the rouble's appreciation in real terms.

"At the moment, objectively, there is a strengthening of the rouble," Mr Dubinin said. "The decline of the rouble against the dollar is proceeding more slowly than inflation."

Mr Dubinin said the real appreciation of the rouble was good for foreign investors but had hurt the country's exporters. The central banker was now seeking to speed up the rouble's depreciation, in line with inflation, to ensure a "neutral" monetary policy.

Dubinin: exporters hurt

After President Boris Yeltsin's stunning dismissal of the cabinet last week, the central bank has emerged as one of the country's few rocks of stability.

Mr Yeltsin has vowed not to change the government's economic course and yesterday said Mikhail Zadornov, the reformist finance minister, would keep his job.

One of the central tenets of Russian policy this year has been to maintain a stable rouble. Now, having saved the rouble by temporarily raising interest rates above 40 per cent, the central bank must try to manage the flood of hot foreign money into high-yielding Russian securities.

Foreigners now own about 30 per cent of the Russian treasury bill market, far exceeding the central bank's foreign currency reserves of $16bn.

But Mr Dubinin said he did not think this high level of foreign involvement posed a danger to the rouble, insisting that the most important factor was domestic confidence.

But he admitted Russia's growth prospects might be dimmed by the high interest rates. He said the central bank now predicted the economy would grow this year by between 0 and 2 per cent.

The central bank chief said he thought interest rates would fall to below 20 per cent by the year-end, possibly as low as 16 per cent.

Brinkmanship in the Duma, Page 2

Watchdog raises the stakes in battle with Manila exchange

By Justin Marozzi in Manila

The Philippine Securities and Exchange Commission yesterday threatened to revoke the stock exchange's licence unless it reformed its procedures for investigating insider dealing by today.

Brokers dismissed the possibility of trading being suspended today and roundly criticised the chairman of the market watchdog, Perfecto Yasay, for his combative remarks.

"Just think of foreign fund managers wanting to sell and not being able to," said one head of trading at a foreign brokerage. "It would be extremely negative for the image of this country."

However, the struggle is the latest of a number of cases in which legal processes have been undermined by arbitrary action in the Philippines. Last year, the credibility of the privatisation process for the Subic Bay container terminal was undermined by the intervention of President Fidel Ramos to overrule the authorities' decision.

Mr Yasay earlier said the exchange would have its licence suspended or would be placed under a management committee unless the reform, required before the bourse is granted self-regulatory status, was introduced by today.

"The Philippine Stock Exchange will be subject to a suspensive position or might be placed under a management committee," the SEC chairman warned. "We want them to know that we're not taking this lightly. In the past we have granted them so many extensions, but I tell you, we really mean it this time."

Other options included the take-over of the exchange by "reform-minded members" or the collapse of the exchange's corporate licence and "the creation of a new exchange".

The long-running turf battle between the PSE and SEC over the exchange's efforts to achieve self-regulatory status now centres on how the exchange will investigate insider dealing.

At present, any investigation requires the prior approval of the president of the exchange. The SEC argues that the president is too beholden to the broker-dominated board of the exchange. It would like to see completely independent investigations. The exchange counters that the loss of the president's powers to approve investigations would be an unacceptable dilution of his authority.

"I think Yasay is taking inordinate risks for something that at the end of the day is not that important," said a former governor of the exchange. "There is clearly no way the April 1 deadline can be met and so he has backed himself into a corner."

Approval of the reform by the PSE would require an amendment to its by-laws, which could only be passed by a two-thirds majority of its 184 members at a general meeting.

CONTENTS

South Korean riot police on standby in Seoul yesterday as a demonstration took place over the economy. Asia reports, Page 6 Reuters

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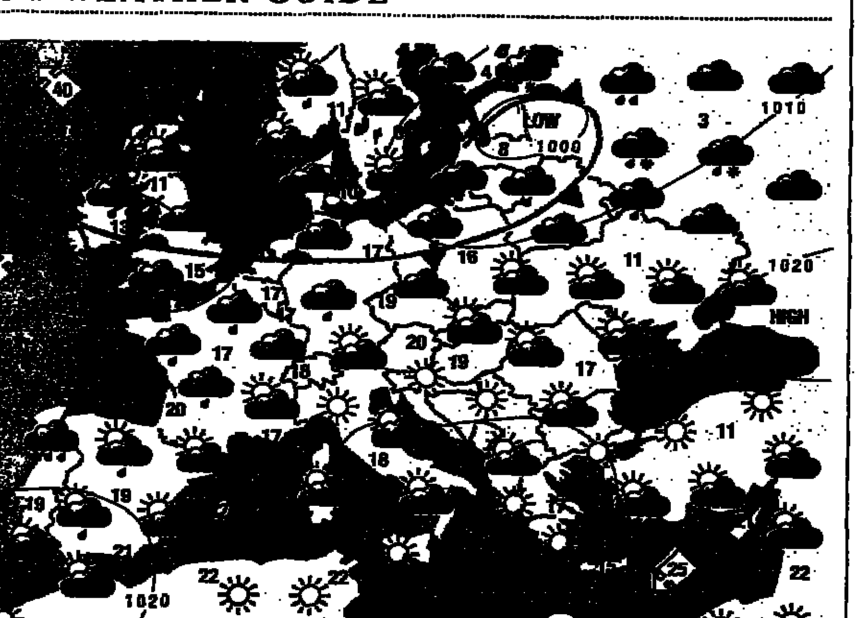
FT WEATHER GUIDE

Europe today

Scandinavia will be mostly dry with sunny spells, although it will be cold in the north and there will be showers in southern Sweden and western Norway. France, the Low Countries, northern Germany and the west of the Iberian peninsula will be cloudy and wet. Much of central and Eastern Europe will be mild with sunshine. The Baltic states and western Russia will be unsettled, with rain in the south and sleet in the north. The Mediterranean will be settled and sunny although it will stay cool in the east.

Five-day forecast

Scandinavia will be mostly dry with sunny spells, but it will be cold in the north. Most of central and Eastern Europe will be mild and fairly sunny. The Balkans and western Russia will have rain or sleet. Western Europe will continue unsettled, but the Mediterranean will be dry and sunny.



Situation at midday. Temperatures maximum for day. Forecasts by PA WEATHERCENTRE

TODAY'S TEMPERATURES

		Maximum Celsius
Abu Dhabi	Sun	30
Accra	Sun	34
Algiers	Sun	22
Amsterdam	Rain	13
Athens	Sun	17
Atlanta	Sun	20
B. Aires	Fair	23
B.ham	Rain	14
Bangkok	Thunder	36

Barcelona	Fair	20
Beijing	Sun	13
Belfast	Drzzl	12
Belgrade	Sun	22
Berlin	Shower	17
Bermuda	Sun	24
Bogota	Thunder	19
Bombay	Sun	32
Brussels	Shower	17
Budapest	Fair	19
C.hagen	Cloudy	10

Cairo	Sun	23
Caracas	Thunder	29
Cardiff	Rain	13
Casablanca	Fair	20
Chicago	Shower	8
Cologne	Fair	19
Dakar	Fair	25
Dallas	Sun	23
Delhi	Sun	34
Dubai	Sun	32
Dublin	Rain	13
Dubrovnik	Fair	17
Edinburgh	Cloudy	11

Faro	Fair	20
Frankfurt	Fair	18
Geneva	Fair	18
Gibraltar	Fair	22
Glasgow	Drzzl	11
Hamburg	Shower	13
Helsinki	Sleet	4
Hong Kong	Shower	27
Honolulu	Sun	28
Istanbul	Sun	15
Jakarta	Sun	33
Jersey	Cloudy	15
Johannesburg	Fair	26
Karachi	Sun	34
Kuwait	Fair	29
L. Angeles	Fair	14
Las Palmas	Fair	23
Lima	Fair	29
Lisbon	Fair	19
London	Shower	15
Lux.bourg	Cloudy	17
Lyon	Shower	19
Madeira	Fair	21

Madrid	Shower	19
Majorca	Fair	22
Malta	Sun	18
Manchester	Drzzl	13
Manila	Fair	32
Melbourne	Sun	19
Mexico City	Sun	29
Miami	Cloudy	30
Milan	Fair	21
Montreal	Shower	19
Moscow	Rain	3
Munich	Fair	18
Nairobi	Sun	27
Naples	Fair	19
Nassau	Sun	29
New York	Rain	23
Nice	Fair	17
Nicosia	Fair	21
Oslo	Fair	11
Paris	Shower	17
Perth	Sun	32
Prague	Fair	18
Rangoon	Sun	35

Reykjavik	Fair	8
Rio	Cloudy	29
Rome	Fair	18
S. Frsco	Fair	14
Seoul	Rain	16
Singapore	Thunder	33
Stockholm	Shower	6
Strasbourg	Cloudy	19
Sydney	Fair	23
Tangier	Fair	20
Tel Aviv	Fair	22
Tokyo	Rain	15
Toronto	Rain	17
Vancouver	Fair	11
Venice	Sun	19
Vienna	Sun	20
Warsaw	Shower	17
Washington	Rain	25
Wellington	Shower	19
Winnipeg	Sun	8
Zurich	Fair	20

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FINANCIAL TIMES
COMPANIES & MARKETS
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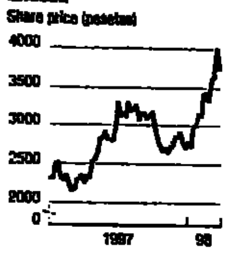
INSIDE

Quarter ends in European records
The end of a phenomenal first quarter for equities saw records on European bourses, including Copenhagen, Milan, Paris and Zurich. The S&P World Index gained 13.1 per cent. But analysts are nervous about the European bull market and are expecting a 5-10 per cent correction in the next 12 months. Page 36

Endesa seeks gas partnership



Endesa, the Spanish power group scheduled for further privatisation, said it was seeking a partnership with a gas conglomerate to diversify its business and ensure its leadership in domestic electricity generation. The utility will continue to expand in Latin America, step up investment in telecommunications and shed staff to overcome falling income caused by tariff cuts and electricity deregulation in Spain. Page 20

30-year Tips set to be auctioned
The US Treasury is expected today to announce the auction of the first 30-year, inflation-indexed bonds. The sale of 30-year Tips, or Treasury index protected securities, will come amid concern that inflation will emerge by the year-end. Analysts expect $8bn or more of the new securities to be sold. Page 24

Heart treatment results boost Scios
Shares in Scios, the US biotechnology company, surged after it released clinical results for a treatment for acute congestive heart failure and said it would be filing for approval with the Food & Drug Administration in the next 30 days. Richard Casey, Scios' chief executive, predicted that global sales of the product would reach nearly $2bn a year. Page 21

Funds injection lifts Nikkei
A last-minute injection of public funds into the futures market lifted share prices in Tokyo on the last day of trading for the fiscal year. However, the Nikkei 225 index ended far short of the 18,000 level, regarded as an important benchmark. On the positive side was the expectation that public funds would be brought in to support stock prices. Page 36

Metromail accepts GUS bid
Great Universal Stores, the UK mail order house, appears to have won the battle for Metromail, the Illinois database marketing company. Metromail was the subject of rival bids from GUS and American Business Information of Omaha. Metromail's board said it was recommending GUS's bid of $34.50 a share, valuing it at $910m including debt. Page 22

Zimbabwe tobacco down 42%
Tobacco farmers were shocked when Zimbabwe's auction opened yesterday, with prices down 42 per cent on last year. While the industry had expected lower prices than in 1997 – when sales on the first day averaged 208 US cents a kilogram – there was widespread rejection of sales by growers after prices on one of the three floors averaged only 123.6 cents, and 116.3 cents on another floor. Page 26

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MARKET STATISTICS

BMW warns rivals over R-R Motors

German auto group will cut supplies if it loses control

By Graham Bowley in Munich and Roger Taylor and Haig Simonian in London

BMW yesterday warned it would force the temporary closure of Rolls-Royce Motor Cars by cutting its supply of components if it lost control of the UK luxury car group to a rival bidder.

Graham Morris, chief executive of Rolls-Royce, said last night he was aware that Volkswagen had talked to Vickers, which owns Rolls-Royce, about the possibility of increasing its offer. However, it is understood Vickers has yet to receive a formal higher offer from VW. VW refused to comment.

Vickers said earlier it had entered into exclusive negotiations, thought to be one month, with BMW, and could not re-open talks with others. It said it remained happy with BMW's offer. Shareholders have to approve the sale.

Reports in Germany suggested VW would pay up to DM1.7bn (£550m), DM200m more than its original offer, topping BMW's £340m offer for Rolls-Royce. VW's new offer would also include a proposal to buy the Cosworth engines business, which is also owned by Vickers.

Even if VW did offer more, it might serve only to elicit a higher price from BMW. "Vickers are not going to be seduced away from BMW's safe offer by tempting proposals from VW which then prove hard to deliver," said one observer.

BMW's threat underlined its determination to take over Rolls-Royce. Bernd Pischetsrieder, BMW's chairman, said his company would immediately terminate supplies of engines and other components to Rolls-Royce, forcing a temporary closure. He said BMW supplied about 30 per cent of Rolls-Royce components.

"If somebody wants to shoulder that responsibility, then we will stop our supplies within a short period. Crewe would have to close down. Nobody has the ability to take it up again in such a short period," he said.

The termination period for BMW's engine contract has been a secret. The period, believed to be one year, would make it difficult for VW to re-engineer Rolls-Royce's new models quickly enough to avoid disrupting production.

Mr Pischetsrieder also outlined plans to reshape Rolls-Royce's board with the inclusion of four non-executive directors. He said one would be an independent "diplomat" to help maintain Rolls-Royce's British image.

"We should follow British traditions. The company will remain British in the future. It will have even less BMW about it than it does today," Mr Pischetsrieder said.

He pledged increased investment on new models and higher output and employment. "We have done a lot of intellectual work in advance. We have a few surprises in the future for Crewe."

Mr Pischetsrieder's comments came as BMW said net profits last year rose 52 per cent to DM1.25bn as sales increased 15 per cent to DM60.1bn. He said the strength of sterling was hurting profits at Rover, which had a pre-tax loss of £92m.


BMW chairman Bernd Pischetsrieder: 'We should follow British traditions.' Picture AP

Potential bidders claim Rosneft price is too high

By John Thornhill in Moscow

Two of Russia's biggest energy companies have warned that the starting price for the sale of the Rosneft oil group is too high, casting a cloud over the government's ambitious privatisation programme.

The government, which has staked its reputation on conducting a clean and competitive auction for the last big state-owned oil company, now seems certain to be drawn into a war of nerves with some of the country's most powerful businessmen.

Rem Vyakhirev, chairman of Gazprom, the giant gas monopoly, said yesterday he was reconsidering his plans to bid for the government's 75 per cent stake in Rosneft because of the inflated price of $2.1bn. Gazprom had announced earlier it would bid for the Rosneft shareholding in alliance with Lukoil, the big Russian oil concern, and Royal Dutch/Shell, the Anglo-Dutch energy group. On Monday, another leading contender, Yuksi, the newly-merged Russian oil group, announced it would not bid for Rosneft, claiming the price was $800m above the company's true value.

But Boris Nemtsov, acting first deputy prime minister, said Rosneft's starting price would not be revised in spite of pressure from the energy companies. "Potential buyers do not want to part with their money and are trying to draw us into a discussion [about price]," he said. "But haggling is forbidden." Mr Vyakhirev "wants to pay less, but we want to receive more".

Giorgy Bedineishvili, Russian oil analyst at Salomon Smith Barney, said it was difficult to attach a market value to Rosneft, given its diverse collection of assets and strategic importance. But he suggested some companies might be bluffing when they said they would not bid.

"It is a closed auction so there is a little bit of game theory going on," he said.

The Russian government set the minimum price for Rosneft after asking Dresdner Kleinwort Benson, the international investment bank, to conduct an independent valuation. Government officials said this showed Rosneft was worth between $2.3bn to $2.4bn in total. They also stipulated that the winning bidder must invest $400m in Rosneft over the next three years. The auction closes on May 26.

Analysts say the government could raise $7bn this year by selling 10 shortlisted companies. However, some of Russia's most powerful groups, which have benefited from "sweetheart" privatisation deals, appear reluctant to bid up prices.

Russia's energy companies have also been squeezed by the fall in international oil prices – although the government has granted them temporary tariff concessions.

Liffe plans changes to take on rivals in run-up to Emu

By Samer Iskandar

The London International Financial Futures and Options Exchange is planning sweeping changes to its governance structure in a drive to improve its decision-making.

The proposals, to be submitted next month to a vote by members, aim to increase Liffe's chances of competing with rival exchanges in the run-up to European economic and monetary union.

Liffe's governance working party, which includes members of the board and outside advisers, will propose reducing the number of directors from 24 to 21 by June. It will suggest an increase in the responsibilities of the chairman, who may have to meet annual performance targets. In a second stage, the board would be slashed to 18 directors.

"The current board was suitable for a stable environment," said George Cox, chairman of the working party. "In times of rapid change, we need a smaller board that can make decisions more efficiently."

Last week, David Kyte, one of Liffe's most prominent independent traders, resigned from the board in protest at what he described as the "apathy" of Liffe's management and its directors. He said the lack of decision-making was threatening Liffe's survival.

Competition among exchanges has intensified sharply in the past year as the advent of Emu threatens to shrink the derivatives market by reducing currency and interest rate risks among participating countries.

The electronic Frankfurt-based Deutsche Terminbörse overtook Liffe in the trading of Europe's most actively traded bond derivative, the futures contract on German government bonds.

Electronic trading is much cheaper than open outcry floor trading – Liffe's favoured trading method until recently. Last month, Liffe said it would spend £20m-£25m ($33m-$41m) – in addition to £10m already spent – to develop an electronic system capable of trading its main products.

Last week, Mr Kyte's company installed electronic trading terminals in London, linking half its 100 traders to the DTB's system.

Several trading houses have complained that Liffe's electronic system, which will only become available by the end of next year, is too expensive and taking too long to develop.

The responsibilities of Liffe's chairman – a largely ceremonial role – will be increased after the incumbent, Jack Wigglesworth, retires in June. Mr Cox said: "As the job is becoming more demanding, we will have to recruit a full-time chairman, possibly from outside Liffe," he said.

The chairman, until now always a board member, was traditionally appointed by colleagues.

BARRY RILEY

No one fooled by end of year window dressing

In Tokyo it is March 31, rather than April 1, that is All Fools Day – in financial markets, anyway – as the annual balance sheet window dressing ritual reaches its climax.

You don't need to be a weird conspiracy theorist to believe there was something suspicious about Tuesday's late futures-led upsurge of 1.6 per cent in the Nikkei Average to 16,527. In Japan, banks' capital bases reflect their holdings of stocks at market valuations.

The Nikkei had a good run in January on the story that the authorities were targeting 18,000 by the financial year-end. However, particular index levels have had much less significance since the Japanese government pumped Y1,800bn ($13.6bn) into 21 leading banks a few weeks ago, and since the valuation rules were changed.

In any case, the common suggestion that the Nikkei tends to be inflated on March 31 and that the yen is hoisted by the repatriation of financial assets, clashes with the facts. The Nikkei has risen 4.7 per cent on average in the past three Aprils. Now the Post Office claims to be ready with $7.4bn to support stock prices.

However, this year looks more difficult than ever before, given the interminable crisis of the 1990s. The Asian boom that earlier helped prop up Japan's economy has collapsed and an ever-widening trade surplus with the US cannot compensate. Industrial production fell 3.3 per cent in February and unemployment has hit a record 3.6 per cent. Tomorrow's latest Tankan business opinion survey is likely to be dire.

At about Y133, the US dollar is close to a six-year high against the Japanese currency, and is 66 per cent above the low it touched three years ago. Perhaps Americans are not so worried about the weakness of the yen, being more concerned about inflation than jobs at the moment. However, Friday's Asia-Europe summit may find the Europeans less tolerant.

In spite of a likely $100bn-plus current account surplus the yen is under serious downwards pressure. The "big bang" deregulation in the financial sector is allowing foreign institutions to lure hard-pressed Japanese savers into the booming and (relatively) high-yielding markets of the US and Europe. The Bank of Japan is flooding the system with liquidity, as shown by a 40 per cent rise in the BoJ's assets in a year; the money will spill out over the foreign exchanges, if not yet into the stock market.

Fortunately, foreign investors can take a more relaxed view of Japan nowadays. Its stock market has contracted to a World Index weighting of only 11 per cent, against a 45 per cent peak in 1989. It is still 24 per cent of the EAFE Index, which Americans use as a non-US benchmark, but that compares with Europe's 70 per cent.

Global bond investors, though, face a bigger challenge. Japanese government bonds represent 14 per cent of the global government bond index and this weighting could go much higher as Japanese borrowing expands while issuance elsewhere shrinks rapidly.

Ten-year JGB yields of 1.8 per cent, much lower than anywhere else, must rise in the medium term. But if Japan slides into a serious recession bond yields could sink even lower as the security of the capital becomes more important than the income.

As for equities, corporate profits are sliding and the average p/e ratio remains sky-high (about 50). But the cash flow multiple is relatively low (certainly by current US standards) and if there were any serious signs of corporate restructuring the Tokyo market might start to look cheap.

But, as has been evident since 1990, conditions have to get worse in Japan before they can improve. Now, they may get *much* worse.

Bang or whimper, Page 15
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Banks undermined, Page 19

RETAILING JAPAN GROUP'S HK ARM FACES SERIOUS FINANCIAL DIFFICULTY

Yaohan International in rescue negotiations

By John Ridding in Hong Kong

Yaohan International Holdings, the Hong Kong arm of the collapsed Japanese retailing group, yesterday warned it was facing serious financial difficulty and was in rescue talks with bankers and potential investors.

"The group's financial position may further deteriorate and if no new capital is injected, then the company may be forced into liquidation," it said.

It added that information concerning the use of corporate funds by former staff had been passed to Hong Kong's commercial crime bureau for investigation.

Shares in the retailing, department store and property company plunged 75 per cent after the resumption of trading yesterday. The shares had been suspended since last September, when Yaohan Japan, the flagship of Kazuo Wada's retailing empire, collapsed with debts of Y161.3bn ($1.2bn).

The Wada family, which built Yaohan into one of Asia's largest retailing groups, said at the time it planned to continue the group's international operations. However, the financial crisis at Yaohan in Japan and the impact of Asia's financial turmoil have hit several subsidiaries and associated companies.

Yaohan Hong Kong, the retailing arm of Yaohan International, filed for liquidation in November last year, forcing the closure of Yaohan department stores in the territory. Stakes in the group's catering and entertainment subsidiaries have also been sold to raise funds and ensure the survival of the Hong Kong operations.

While Yaohan's Hong Kong subsidiaries have generally been controlled directly by the Wada family, rather than through Yaohan Japan, they have also been affected by financial strains arising from an aggressive expansion strategy.

Yaohan International yesterday said it had total bank borrowings of HK$431m (US$55.6m) and a net asset deficit of HK$41.7m at the end of September last year. Since late 1997, the company added, it had received writs from creditors claiming about HK$71m.

Trading results for the six months to the end of last September were also bleak, as the company suffered a net loss of HK$1.36bn on turnover of HK$332m. That compares with a net profit of HK$61m for the 12 months to the end of March 1997, on turnover of HK$3.89bn. The loss was largely the result of a HK$1.16bn exceptional charge, which included provisions for doubtful debts and investments in an associate company.

Yaohan International declined to comment on the information passed to the crime bureau. It said new directors had been appointed in February to take over management and that provisions had been taken in respect of the information.

Lao Yuan-yi, joint managing director, said the company planned to appoint an international accounting firm to ascertain the group's financial position.

Japanese banks undermined as Nikkei ends year at 16,527

A lacklustre economy and poor earnings growth does not bode well for stocks, write **Paul Abrahams and Gillian Tett**

Earlier this year, Taku Yamasaki, policy chief of Japan's ruling Liberal Democratic party, warned that the country's financial system could not survive intact if the Nikkei 225 average closed below 18,000 at the end of the financial year.

Despite a last-hour rally, the index ended the year yesterday nearly 1,500 points short of Mr Yamasaki's target, at 16,527.

The dangers described by Mr Yamasaki were very real.

Japan's teetering banks have counted unrealised profits on equity holdings as tier two capital. But a sharply lower stock market meant many banks could lose all their unrealised profits and undermine their capital.

The effects would be twofold. First, the banks would need to reduce loan books, causing widespread bankruptcies. Second, many would no longer meet international capital adequacy requirements and would be unable to trade overseas.

But with yesterday's close, the markets yawned – and with justification.

The reason was that the authorities had decided if they could not solve the problem, they would simply ignore it. They had introduced new rules allowing banks to value their equity holdings at either market value or at book value, which is normally higher.

Yesterday Yasuda Trust, one of the weakest Japanese banks, announced it had adopted the book valuation method, thereby reducing its parent losses last financial year from Y294bn ($2.22bn) to just Y150bn.

The change is only an accounting one, and no economic value has been added. This has been acknowledged by banks such as Sanwa Bank, which says it will report using the new methodology, but also put the "old" figures in its annual report in an effort to show it has nothing to hide.

Such accounting chicanery has not helped the banks meet international capital adequacy standards.

The rules allow 45 per cent of equity holdings to be valued as tier two capital, but only valued at market rates.

This problem was overcome by injections of public funds into the banks through preference shares.

Those that still did not reach the required ratios simply closed down their international operations. The ministry of finance said yesterday there were only 45 Japanese banks allowed to conduct business overseas, against 80 last year.

Nevertheless, politicians remain anxious about the level of the market.

Although it has always been officially denied, most analysts believe public money held by the postal savings system has been used to pump up the market.

Alex Kinmont, strategist at brokers Morgan Stanley, says normal investment in the equity market by the postal authorities – using trust banks as intermediaries – was Y3,000bn a year in the early 1990s, but in recent years the figure has nearly doubled.

Pelham Smithers, strategist at ING Barings, says that shortly before the government announced its latest economic package last Thursday, the trust banks made a block order of some 4,000 futures contracts – driving the market sharply higher.

The reason for this market manipulation is linked to the large cross-shareholdings of Japanese companies.

These are estimated to account for between 45 per cent and 55 per cent of the market.

Many industrial and service sector companies will issue profits warnings in the coming weeks because of losses on their shareholdings.

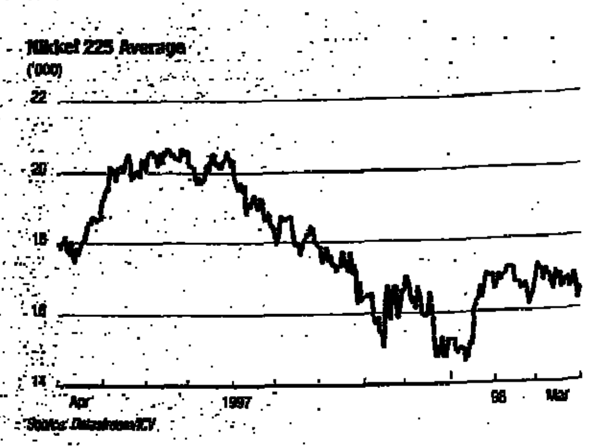
The combination of a lacklustre economy, disappointing earnings growth and an end to government intervention does not augur well for the stock market.

Estimates for non-financial groups' earnings range from about 5 per cent growth to a contraction of more than 15 per cent, with the prospect of worse this year.

J.P. Morgan, among the most bearish of the brokers, believes the Nikkei 225 average could be as low as 12,000 by June.

Such a fall would put more pressure on the government to boost the economy through meaningful measures, such as tax cuts, rather than trying to deal with the symptoms of the crisis through market manipulation.

If so, that would be progress.



NEWS DIGEST

INDONESIA

Gudang Garam threatened by cigarette price rise

Gudang Garam, Indonesia's largest producer of clove cigarettes, yesterday reported a 38 per cent rise in profits for 1997, but analysts said its sales and margins were likely to come under pressure after minimum prices are doubled from today.

Profits totalled Rp906.8bn ($107.3m) for the year, compared with Rp655.2bn in 1996, mainly because of a 15 per cent rise in sales to Rp7,518bn. The gross profit margin rose from 23 per cent to 25 per cent.

Schroders, the brokerage, has said that Gudang Garam, the second largest company on the stock exchange, will be hurt more than its competitors by a sharp drop in consumer spending and a government decision to raise cigarette prices from today. The state raised the minimum price of machine-rolled clove-blended cigarettes from Rp95 to Rp175 to boost excise revenues. Indonesia's largest producers pay an excise tax of 35 per cent, and this is expected to be raised in July. Taxes last year amounted to about 50 per cent of gross revenue for the largest producers. **Sander Thoenes, Jakarta**

BUILDING PRODUCTS

Carter Holt to sell units to MBO

Carter Holt Harvey, the New Zealand forestry group, plans to sell its Australasian building product subsidiaries to a management buy-out backed by investors including AMP, Australia's biggest life group, and Grant Samuel, the merchant bank.

The company, a subsidiary of New York forestry group International Paper, said the profitable subsidiaries were being sold to allow the company to concentrate on its core forestry activities. The price has not been disclosed, but the company described the buy-out as the biggest of its kind made in Australasia. The companies being sold have total sales of more than NZ$240m (US$135m) and employ 830 staff in New Zealand, Australia and the US. They include insulation and roofing operations in New Zealand, insulation, sinkware and flooring operations in Australia, and roofing companies in the US. The new company will be named Tasman Building Products. **Terry Hall, Wellington**

D-RAM PRODUCTION

Japan groups may quit Europe

Fujitsu and Hitachi, the Japanese groups, said they were considering ending production of dynamic random access memory chips in Europe, where they operate plants in the UK and Germany, respectively.

Hitachi said it was studying halting D-Ram production at its German unit, Hitachi Semiconductor, by about 2000. "This has not officially been decided yet, but we are considering the move," it said. The group will switch from producing D-Rams to making microprocessors and microcontrollers. The unit produces 16MB D-Ram microchips and is planning to shift output to 64MB D-ram chips in the year to March 1999.

Fujitsu said it might discontinue making 4MB and 16MB microchips at Fujitsu Microelectronics, its UK unit which Fujitsu said produced 2.5m units a month. "We are shifting production gradually to microcontrollers," Fujitsu said. "Eventually we will stop production of these microchips," it added. **AFX-Asia, Tokyo**

TELECOMS

HK group gives up IDD licence

Hongkong Telecom, the territory's dominant carrier, yesterday surrendered its international direct-dial licence, paving the way for the new era of staggered competition.

The group, which is controlled by Cable and Wireless of the UK, agreed to give up its exclusive franchise eight and a half years before its scheduled expiry in return for a package including an HK$6.7bn (US$865m) pay-off. It received half of this yesterday. **Louise Lucas, Hong Kong**

PROPERTY

Thai group to double capital

Land & Houses, a big Thai property developer, said yesterday it planned to more than double its registered capital by offering up to 490.6m new shares to institutional investors.

An initial offering of not more than 350m new shares will be made available from the beginning of May, pending shareholder approval. The remainder, which could be placed via a rights issue, will be offered at an unspecified later date. The company will increase the amount of shares available to foreigners from 30 per cent to 45 per cent and will set up a trust fund for foreigners for an additional 10 per cent of outstanding shares.

Proceeds of the capital raising will be used to restructure the company's finances, complete development projects and set up a property fund with other investors.

Land & Houses posted a loss of Bt6.53bn ($172m) in 1997, compared with a net profit of Bt1.76bn. **Ted Bardacke, Bangkok**

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RESTRUCTURING MORE THAN 100,000 STAFF TO GO OVER MEDIUM TERM AS STATE-OWNED CONCERN MOUNTS EFFICIENCY DRIVE

Bank of China plans to cut workforce by half

By Quentin Peel, James Harding and James Kynge in Beijing

Bank of China, one of the country's big state-owned commercial banks, will shed more than 100,000 employees as it halves its workforce to improve efficiency.

Wang Xuebing, BOC president, said Asia's financial crisis had taught China's banks "the important thing is quality, efficiency and profitability. It does not matter how big you are."

However, Mr Wang cautioned that the reform of China's state banking sector would be a "medium-term" project, suggesting that changing the culture of management and finding new jobs for former bank employees would take time.

Mr Wang said the Bank of China, which employs about 210,000 people, would "have to streamline, downsize our staff. We have to cut half. At least 50 per cent." He did not give a clear timetable for the restructuring, saying only that "in five years' time the Chinese banks will be able to reduce the labour force because of IT modernisation... but the real question is how to reallocate them [redundant staff]."

Mr Wang indicated the turmoil in Asia had had a profound impact on the thinking of China's senior banking officials and was likely to have a significant effect on the country's economic and institutional development.

The problems generated by state-controlled banks lending to state-backed industries elsewhere in the region had put in question the model of what he called "the principal banker", whereby one state bank is in effect the exclusive banker to a state-owned enterprise.

"If you look at Japan and Korea, then you can see that if you do not handle this [the relationship between state banks and state companies], there will be concerns about the relationship between the banking sector and industry," he said.

The Asian financial crisis had thrown up new investment opportunities in the region for the Bank of China. "Malaysia, Thailand and Korean investors are now approaching BOC for funding... and some of the projects are very good ones," Mr Wang said.

At the same time, he suggested that the unravelling of neighbouring economies in Asia would add to the strain on the economy and banking in China.

Many economists consider China's state banking sector to be technically insolvent, but Mr Wang played down the problem of bad debts at Bank of China.

"Our bad debts account for 1 per cent of our loan portfolio in renminbi [the Chinese yuan]. The problem loans [which include overdue interest and capital repayments] at BOC are close to 10 per cent. But bad debts according to Chinese accounting standards are just 1 per cent," he said.

Pre-tax profits at Bank of China slumped 48 per cent in 1997 to Yn6.03bn ($728m) against Yn11.6bn in 1996.

Docomo reduces parent's forecast

By Michiyo Nakamoto in Tokyo

NTT Docomo, Japan's dominant cellular phone group, is taking a Y36bn ($272m) extraordinary loss in relation to its stake in NTT's personal handy-phone system (PHS) companies.

As a result, Docomo cut its parent net profits forecast by Y43bn to Y21bn for the year to March 1998.

The lower net profits – which come on sales of Y1,261bn and pre-tax profits of Y125bn – reflect the extent to which the PHS business is weighing down on the NTT group.

Docomo has a 48 per cent stake in the nine PHS companies in the NTT group, which have cumulative losses of Y240bn.

Docomo's profits revision follows NTT's statement that parent net profits in the year to the end of March would be Y188bn, or 28 per cent lower than previously forecast, because of losses in the PHS units. NTT is taking a special loss of Y67bn in relation to the write-down of its PHS businesses.

PHS, which is a cheaper and more restricted form of mobile communication compared with cellular phones, has faced difficulties since its launch three years ago.

It was initially hailed as a convenient, low-cost alternative to cellular phones, but fierce competition saw handsets given away free, and a high level of churn has led to mounting losses at most PHS companies.

The decline in cellular phone handset costs and in call rates has also eroded the main advantage of PHS over cellular phones.

PHS subscriptions in January declined by 68,000 overall, according to industry statistics.

The write-offs at NTT and Docomo suggest that NTT is planning to tackle the problems by either merging the companies with Docomo or liquidating the PHS companies and transferring assets to Docomo.

Cost-cutting helps Maruti to 20% advance

Efficiency drive: Maruti maintained its 80 per cent share of India's passenger car market Tony Andrews

By Mark Nicholson in New Delhi

Substantial cost-cutting and improved efficiency lifted pre-tax profits at Maruti, India's biggest carmaker, 20 per cent to Rs9.76bn ($247m) for the year ended yesterday. The results, which compared with Rs8.08bn the previous year, were achieved despite a modest rise in car sales of 7.7 per cent.

Maruti, a 50:50 joint venture between the Indian government and Suzuki, the Japanese carmaker, maintained a share of more than 80 per cent of India's passenger car market with unit sales of 326,840 against 303,525 a year earlier, despite growing competition from newly arrived foreign and joint-venture carmakers.

R. S. S. L. N Bhaskarudu, the managing director whose appointment last year caused a bitter dispute with Suzuki, refused to comment on the continuing dispute, which is the subject of arbitration proceedings in Paris. Suzuki opposed Mr Bhaskarudu's appointment saying he was "unsuitable" for the post. He would say only that a solution to the dispute lay in the hands of Maruti's owners.

The company's basic 800cc model remained the mainstay of production, with output of 189,000 cars. Falling output of its 1,000cc and Esteem models, down almost 25 per cent at 18,700 units, was offset by rising sales of both the 800cc and its Omni minivan, up 21 per cent.

Mr Bhaskarudu said the sustained profits growth, nearly matching the previous year's 22 per cent rise, resulted largely from cost-cutting at Maruti's Gurgaon plant, outside New Delhi, with savings of at least Rs750m coming from cuts suggested by workers.

Exports, mainly of the Suzuki-branded Alto model, fell to 25,986 cars from 36,000 a year earlier, but Mr Bhaskarudu said the company aimed to export 10 per cent of production next year. The company said export earnings fell to $120m from $140m a year earlier and were exceeded last year by foreign exchange outgoings of $185m. Turnover was Rs84.5bn, up 6.3 per cent.

FirstGroup and New World in HK bus deal

By Louise Lucas in Hong Kong and Jonathan Ford in London

FirstGroup, the UK's biggest bus company, is joining forces with New World Development, a Hong Kong property company, to take over a five-year franchise to operate a large number of Hong Kong's buses.

The consortium, which will start operating the service on September 1, headed off five other bidders to win the franchise. It defeated the existing holder, China Motor Bus (CMB), which had teamed up with Stagecoach, FirstGroup's biggest rival in the UK, to make a bid.

Hong Kong's bus sector was opened to bidders following the transport authority's decision in February to remove the franchise from CMB after 65 years. Family-owned CMB was criticised for running dirty, old-fashioned vehicles.

Bids were submitted from Hong Kong bluechips and China-backed companies, and the inclusion of a UK partner was taken as confirmation of business as usual for UK companies in the former colony.

"Clearly, we have a level playing field," said Steven Thompson, chief analyst at Nikko Research Centre in Hong Kong. "It does indicate there's no discrimination."

FirstGroup brings experience to the consortium: New World was one of the few bidders to have no prior experience of operating a bus service. However, it has pledged to recruit CMB personnel – including managers – to provide continuity of service.

For New World, the 88 bus routes will provide recurrent income, in contrast to the more erratic earnings from property development.

The group has made a commitment to invest some HK$2bn (US$258m) in the franchise, including the acquisition of 500 new buses within two years, each equipped with a temperature controlled ventilation system and facilities for the disabled. It will also construct a new permanent bus depot.

The new bus operator will require fewer mechanics than CMB but it is prepared to offer alternative employment within the New World group – a factor likely to have been welcomed by the government, under growing pressure as redundancies in the territory increase.

FirstGroup will have a 26 per cent stake in the joint venture and has agreed to contribute up to HK$520m to the franchise, financed out of existing resources.

Sundiro suspends IPO as markets flag

By James Harding in Shanghai

Hainan Sundiro Motorcycle, one of China's leading motorcycle manufacturers, has postponed indefinitely its planned initial public offering, reflecting the ebbing enthusiasm for new listings on mainland China's lacklustre foreign currency stock markets.

The company's decision to suspend the IPO, which was originally planned for last year, follows the launch of Dalian Refrigeration last week, which closed below its issue price on its first day of trading.

Ren Chunyu, vice-director of the securities department at Sundiro, said yesterday: "We temporarily postponed the issue of our B shares because of the sluggish market. The price of the newly issued Dalian Refrigeration shares fell and broke their issue price... This may be attributed to the impact of the south-east Asian financial crisis."

China's stock markets are segregated into A shares, which are denominated in Chinese currency and sold to mainland Chinese investors, and B shares, which are traded in foreign currency and, in theory, reserved for foreign investors.

Sundiro also acknowledged that it was facing "fierce competition and falling prices" in China. The company, which is based in Haikou on the island of Hainan in southern China, saw motorbike prices fall by between 10 per cent and 15 per cent last year, according to recent reports.

Bruce Richardson, head of HG Asia in Shanghai, said: "The poor price performance of Dalian Refrigeration, coupled with current difficulties in selling Shanghai Consolidated Electric, indicate continuing poor conditions for new B share issues. Foreign interest in B shares, new or otherwise, has collapsed."

Dalian Refrigeration had an inauspicious debut on the Shenzhen stock exchange last week, when it offered 115m B shares at an offer price of HK$2.99 and closed the day at HK$2.92. Shanghai Consolidated Electric is a window company for a number of Shanghai's electrical joint ventures.

INVESTMENT BANKING GERMAN GROUP IS POACHING STAFF FROM UBS, BZW AND BARCLAYS CAPITAL

Commerzbank recruits top City teams

By Clay Harris, Banking Correspondent

Germany's Commerzbank has swooped into the ferment of the London jobs market, hiring more than two dozen analysts and traders for its growing investment banking operation.

Commerzbank's recruits include highly rated teams from Union Bank of Switzerland, which is merging with Swiss Bank Corporation, and from BZW and Barclays Capital, which were split up in the bank's retrenchment. It has also hired two derivatives executives who worked for Peregrine, the Hong Kong-based investment bank which collapsed in January.

On the research side, Commerzbank has named heads of utilities, property, autos, insurance, metals and mining, oil and gas, telecoms, chemicals and technology. Several have brought colleagues or teams with them.

The appointments underline the intention of Mehmet Dalman, head of global equities, to build rather than buy. Mr Dalman was recruited last May from Deutsche Morgan Grenfell.

DMG, meanwhile, has lost another senior executive to Donaldson, Lufkin & Jenrette, the US investment bank which shares Commerzbank's "build not buy" strategy.

John Smith is to become DLJ's international head of research, covering non-US shares. His move keeps intact his partnership with Mark Rutherford, who is moving from DMG to become head of international equity sales at DLJ.

Both moved to DMG from UBS. Their former UBS boss, Hector Sants, will be global head of equities at DLJ.

At Commerzbank, research recruits are headed by Lakis Athanasiou, who becomes head of utilities. As UK water and utilities analyst at UBS, he was ranked first in the Extel and Institutional Investor surveys. He brings UBS colleagues Paul Rogers and Chris Rogers.

Martin Bell, head of index trading at BZW, becomes head of derivatives proprietary trading, bringing five former colleagues from Barclays Capital.

Sunni Goonetillake and Patrick Wong, formerly of Peregrine, will be heads of Asian derivatives sales and Asian equity derivatives trading, respectively.

Laurie Pinto, head of risk arbitrage sales, joins from Mesirow Europe with two colleagues.

Former UBS analysts named research heads at Commerzbank include John Atkins, property, bringing colleagues Ray Jones and Carl Gough; Peter Dupont, metals and mining; Jeremy Eldon, oil and gas, bringing Lucy Haskins; and Peter Knox, technology.

Other research heads are Andrew Blair-Smith, autos, from BZW; Michael Drepper, insurance (DMG); Tim Hirst, telecoms (Dresdner Kleinwort Benson); and Ronald Koehler, chemicals (Credit Suisse First Boston).

Bouygues quiet on possible revamp

By David Owen in Paris

Bouygues, the French construction and telecommunications group, yesterday unveiled better-than-expected annual profits, but left unresolved whether Groupe Vincent Bolloré's arrival as a leading shareholder would result in a shake-up of the company's activities.

Speculation over disposals has been rife since late last year, when the holding company of Vincent Bolloré, the French financier, and SCDM, a holding group owned by Martin and Olivier Bouygues, agreed to form a joint company grouping their stakes for at least five years. The entities involved together own about 25 per cent of Bouygues capital.

Opinion is divided on whether Bouygues will opt to concentrate on traditional strengths, such as construction, or on more recent adjuncts, such as telecoms. Bouygues Telecom operates France's third mobile phone network.

"I am convinced that Bolloré will demand better shareholder value and, probably, sales," said Jean-Christophe Lefèvre-Moulenq, an analyst with Cholet-Dupont in Paris.

Net attributable profits rose from FFr654m ($105.8m) a year earlier to FFr755m in 1997, on turnover ahead from FFr73.4bn to FFr91.1bn.

The group, which also owns 40 per cent of TF1, the TV channel, and helped to build the new Stade de France sports stadium in Paris, said the figures were not comparable, owing to new accounting methods and a change in the way in which one business was consolidated. On a comparable basis, net attributable profit for the year was FFr551m, on turnover of FFr77.9bn.

The company said its total provisions for risks and depreciation in Asia stood at FFr163m. Five countries in the Asia-Pacific region had been affected by the crisis – South Korea, Indonesia, Malaysia, the Philippines and Thailand – and Bouygues derived FFr1.2bn in turnover from these in 1997. It expected this figure to fall to FFr900m this year.

Construction activity in France continued to decline, but the volume of orders had stopped falling and should be higher this year.

An unchanged gross dividend of FFr25.50 is proposed.

Schindler upbeat for 1998 despite Asia

By William Hall in Geneva

Schindler, the world's second biggest manufacturer of elevators and escalators, expects a substantial improvement in its profits in 1998, despite further non-recurring restructuring charges of up to SFr50m ($33m) and severe pricing pressures in Asia, which accounts for nearly two-thirds of the world elevator market.

The Swiss group, which had previously reported a 61 per cent rise in 1997 net income to SFr142.8m, said profit growth in 1998 would come primarily from cost-cutting and improved efficiency rather than revenue growth.

Alfred Schindler, chairman, said the company had achieved its strategic growth target for global presence and the emphasis was being redirected to strengthening earnings potential. Last year Schindler increased its pre-interest operating margin as a proportion of sales from 2.3 per cent to 3.8 per cent. Its medium-term target is 6.6 per cent.

Mr Schindler, speaking at the company's annual press conference in Geneva, estimated the world market for new installations grew by about 6 per cent to SFr16.3bn, or 242,800 units, in 1997.

However, after adjusting for currency fluctuations the total market was flat, as was the estimated SFr30bn-a-year global market for repair and maintenance of installed capacity. He did not see any material change in the outlook in the current year.

European demand continued to stagnate but there was a slight increase in Latin America. In Asia-Pacific, demand was growing but prices were "lousy".

Alfred Schindler: growing demand in Asia-Pacific but prices 'lousy'

Schindler estimates 62 per cent of the world market for new installations by value is in the Asia-Pacific region, followed by Europe with 24 per cent and the Americas with 14 per cent. By contrast, 49 per cent of the group's revenues in escalators and elevators come from Europe, 30 per cent from the Americas and 21 per cent from Asia Pacific.

Asia, despite its recent problems, would continue to post "substantially higher" long-term growth rates for elevators and escalators than other regions, and it was an area where the group needed to increase its presence, said Mr Schindler. Population growth and urbanisation are fuelling demand for high-rise accommodation.

"The greatest risk lies not in the collapse in demand but rather in a massive expansion of capacity to an extent that vastly exceeds demand and thereby drastically forces prices down."

China is Schindler's most important Asian market, and although volume is growing the arrival of new competitors and "unprecedented price erosion" is neutralising volume growth.

Norske Skog plans Korea buy

By Greg McIver in Stockholm

Norske Skog, Europe's largest newsprint supplier, is pursuing acquisitions in south-east Asia with plans to buy a mill in South Korea from Shin Ho Paper, the Thai forestry group.

The agreement, announced yesterday, to purchase a 90 per cent stake of a plant at Chong Won with annual capacity of 180,000 tonnes, follows the Norwegian company's announcement last week that it was negotiating to buy a majority holding in Shin Ho. The group owns Thailand's only newsprint mill, which has annual capacity of 120,000 tonnes.

Norske Skog said it would inject about $35m of new equity into Shin Ho, giving it a 70 per cent stake. The debt-free value of the two transactions would be less than $300m.

Omund Revhaug, Norske Skog head of corporate development, said it was taking advantage of a more helpful investment climate following the region's economic turmoil.

He said the crisis had improved access to equity holdings, while currency devaluations had resulted in lower prices.

The acquisitions will raise Norske Skog annual newsprint capacity to 2.3m tonnes and make it the world's third largest supplier of the grade from early next year, behind Canada's Abitibi-Consolidated and Bowater of the US.

Mr Revhaug signalled that Norske Skog was interested in making further acquisitions, with the aim of doubling its annual production capacity in south-east Asia.

● Investor, the main investment vehicle of Sweden's Wallenberg business empire, yesterday said it would distribute up to 50 per cent of Saab, its aerospace subsidiary, to its shareholders ahead of a stock market listing, writes Tim Burt in Stockholm.

The company said shareholders would be offered the shares at an undisclosed discount to the listing price.

The listing would enable the military aircraft manufacturer to "participate better" in the restructuring of the European aerospace industry.

BOE joins financial sector shake-up

By Victor Mallet in Johannesburg

The Cape Town-based Board of Executors group yesterday joined a wave of consolidation in the South African financial services industry with a R17.9bn ($3.6bn) deal to simplify cross-shareholdings with partners and increase efficiency.

BOE, Orion Selections Holdings, Orion Selections and NBS Boland will be rationalised to form a single investment banking group with a full range of services, including banking, asset management and life assurance.

A restructured BOE would have a market capitalisation of about R31bn, making it the third largest group, behind Stanbic and Nedcor, in the banking sector of the Johannesburg Stock Exchange. BOE said that under the new structure, it would have had net earnings of more than R1bn in the year to September 1997.

Liberty Life and Stanbic revealed three weeks ago that they were in talks to bring their banking, life assurance and fund management operations into a single holding company.

The day before, Anglo American and RMB Holdings announced a merger of their financial services interests.

"It is really a consolidation into one effective group," said Bill McAdam, BOE executive chairman. "It has not been a copy-cat thing. We think it makes huge commercial sense."

He said BOE also wanted to contribute to "black empowerment" by bringing in a significant black South African corporate partner. "We want to be regarded as an African bank in all respects," he said.

Under the proposed agreements, the listed companies would be BOE Corporation, the holding company, and BOE, the operating unit. The other companies in the group would be delisted from the Johannesburg Stock Exchange.

The restructured group will manage assets of about R77bn, comprising R35bn in banking assets, R32bn in client funds and R10bn of its own investments.

BOE and other South African financial services groups want to be able to meet the challenge of foreign rivals moving into their domestic markets, while developing their own businesses internationally.

Although BOE will have a 20 per cent stake in RMBH, Mr McAdam said he regarded the holding as a strategic investment and saw no serious conflict of interest.

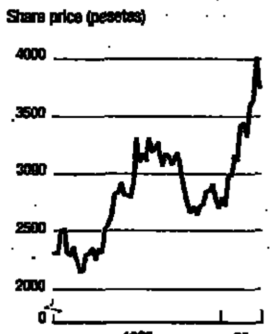
Endesa seeks gas partnership

By Tom Burns in Madrid

Endesa, the big Spanish power group scheduled for further privatisation, said yesterday it was seeking a strategic partnership with a gas conglomerate to diversify its business and ensure its leadership in domestic electricity generation.

The utility will also continue to expand in Latin America, step up investment in telecommunications and shed more than one-quarter of its labour force over the next four years to overcome falling income caused by tariff cuts and electricity deregulation in Spain.

The Spanish government controls 41 per cent of Endesa, and is expected to sell a 25 per cent stake in June through a market disposal likely to be worth more than Pta800bn ($5.1bn), a record issue for Spain.



Source: Datastream/ICV

"The future value of electricity companies depends on their ability to establish long-term arrangements with gas companies that will ensure supplies at a good price and make possible a joint selling strategy to big industrial consumers," said Rafael Miranda, Endesa chief executive.

He added that Endesa had initiated contacts with possible partners, including Gas Natural, the dominant Spanish gas distributor, the Anglo-Dutch Shell group and Total and Elf Aquitaine of France.

Endesa has provisionally allocated Pta350bn for electricity generation and distribution investments in Latin America over the next four years – up to Pta140bn could be spent this year.

The group, in association with Enersis, the Chilean electricity company in which Endesa bought a controlling stake last year, is considering acquisitions in Brazil and in Mexico.

But Mr Miranda said the cost of electricity assets in Brazil "risked becoming exorbitant" and Endesa was not in the market for "buying at any price".

He said the group's priority was to consolidate its business in Latin America following investments totalling Pta361bn last year in Chile and Colombia.

Endesa, a big shareholder in Spain's second fixed-line and mobile telephone operators and an important investor in cable communications, has become pivotal in the deregulation of Spain's telecoms sector. Mr Miranda said he wanted a "global solution" which would bring all the businesses together to compete more effectively against Telefónica, Spain's dominant carrier.

Under early retirement plans for staff aged 55, Endesa will reduce its employees by 7,000 to 20,000 by 2002.

● Iberdrola, Spain's second ranked electricity group, raised its 1997 net profits by 5 per cent to Pta101.5bn, in line with forecasts.

BHV chief aims to lift profits 10% this year

By Andrew Fisher in Munich

Bayerische Hypo- und Vereinsbank (BHV), the German bank being created by the merger of two Bavarian banks, should be able to increase operating profits by at least 10 per cent this year, Albrecht Schmidt, chairman designate, said.

Both existing banks – Bayerische Vereinsbank and Bayerische Hypotheken- und Wechsel-Bank – had raised profits in the first two months. Net interest income and commission income, benefiting from strong private customer business, had both moved ahead, he said.

But Mr Schmidt, currently chairman of Vereinsbank, also said 1998 would be a "particularly difficult year". The two banks would have to ensure the exertions of the merger – which will not be completed until September – did not lead to any loss of business.

The merged bank, which will be Germany's second largest, aims to achieve a 15 per cent net return on capital and a cost/income ratio of 50 per cent in 2003. Mr Schmidt said these were realistic goals. "The good start to 1998 confirms our optimism."

Last year, the banks achieved combined operating profits of DM3.4bn ($1.8bn), a rise of 21 per cent; Vereinsbank accounted for 60 per cent. Joint net profits were 9 per cent higher at DM1.7bn, with a return on equity of 9.4 per cent. The cost/income ratio was 58.4 per cent.

The profit rises came after Vereinsbank made extra provisions for Asian loan risks amounting to 20 per cent of its exposure of DM1.1bn in the problem countries. Hypo-Bank nearly doubled its loan risk provisions to DM2.85bn to cover risks on large property projects, using gains on its securities portfolio.

The banks also gave more details of the merger terms. The auditors' report on which the merger exchange ratio of roughly 1.3 Hypo-Bank shares to one of Vereinsbank was calculated valued Vereinsbank at DM137.23 a share and Hypo-Bank at DM103.18. Vereinsbank's total valuation was DM41.4bn against DM27.9bn for Hypo-Bank.

Mr Schmidt gave no clear idea of how BHV would realise its planned synergies and cost cuts. He has said it would shed jobs in Germany but create jobs across Europe. Yesterday, he said the employment total would "oscillate" around 40,000 – the present combined figure – but "at the lower end".

BHV plans to operate as a "bank of the regions" in retail and corporate banking, property finance, asset management, financial markets and trade and project finance.

The merger, which is dependent on shareholders' approval at annual meetings in May, will be retrospective to January 1.

Fincantieri falls 79% on delays to production

By Paul Betts in Milan

Fincantieri, the Italian state-owned shipbuilding group, yesterday reported a 79 per cent fall in 1997 profits after production difficulties in meeting its heavy workload commitments, especially in the thriving market for large cruise ships.

The group, scheduled for privatisation, has been involved in an increasingly tense relationship with the Walt Disney company over the construction of two 85,000-tonne, 2,800-passenger cruise ships for the US entertainment conglomerate.

The order marks the entry of the US company into the cruise business. However, production difficulties at Fincantieri's Marghera yard in Venice forced Disney to delay the launch of its cruise holidays from April to July.

The delays have led to considerable friction between the Italian shipbuilders and Disney, which is understood to have a team of about 150 people in Venice monitoring progress on the two cruise liners.

Fincantieri yesterday acknowledged that its lower 1997 earnings reflected the problems with the Disney orders, which are expected to entail penalty clauses for late delivery.

Earnings fell from L50.3bn in 1996 to L10.7bn ($58.8m) for 1997, while revenues increased 12 per cent to L3,958bn.

Fincantieri has cornered about 40 per cent of the world market for giant cruise ships, receiving orders last year from P&O, Carnival, and Holland America Line.

It is also a leader in the world market for fast ferries.

NEWS DIGEST

DAIRY PRODUCTS

Dispute among investors poses threat to MDFI

The future of MD Foods International (MDFI), the Danish company which owns one of the largest dairy businesses in the UK, was in doubt yesterday following disagreements among investors over a planned financial restructuring. A meeting of shareholders today is due to vote on the plans, which were outlined last month by MD Foods, the Danish dairy farmers' co-operative which has a 51 per cent stake in MDFI.

The reconstruction would in effect buy out the four Danish banks and other institutional investors which own the remaining 49 per cent.

Niels Hougaard, fund manager at Kommunernes Pensionsforsikring, a pension fund with shares in MDFI, said yesterday: "We cannot vote for the reconstruction." He added that if the fund or other shareholders did not support the reconstruction, receivership would be imminent, but added: "We are still negotiating. Things could look very different by tomorrow."

The reconstruction plan would transfer MDFI's activities to MD Foods, which would place them under a wholly-owned subsidiary. MDFI would be left with only its debts of about DKr2.5bn, of which some DKr1.5bn is owed to four big Danish banks.
Hilary Barnes, Copenhagen and John Willman, London

ITALY

Sell-offs lift IRI

IRI, the Italian state holding company due to be dismantled through a series of privatisations during the next three years, yesterday reported a 1997 profit of L5,000bn ($2.74bn) following substantial capital gains from the privatisation of Telecom Italia, the Seat telephone directories company, and Banca di Roma. The company, which reported a meagre profit of L184bn in 1996, said its net financial indebtedness had dropped sharply to L2,700bn from L9,400bn in 1996.

IRI said it intended to pursue its privatisation programme this year with the sales of the Autostrade motorway group, the Aeroporti di Roma airport operator, the Finmare shipping line, the Alitalia airline, the Finmeccanica defence and engineering group and the Fincantieri shipbuilding company. It expected to report another significant profit this year along with further improvement in its indebtedness.

■ **Pirelli**, the Italian tyre and cables group, yesterday shelved its proposed L1,400bn acquisition of Sirti, the telecommunications network services and engineering company controlled by Telecom Italia. The collapse of the deal follows a dispute between Pirelli and Telecom Italia over the value of Sirti after the recently privatised Italian telecommunications group decided to review a L2,200bn fibre optic programme. **Paul Betts, Milan**

ITALIAN BANKING

BNL tumbles into the red

Banca Nazionale del Lavoro, the Rome-based commercial bank to be privatised later this year, yesterday reported a consolidated loss of L2,803bn ($1.54bn) for 1997, compared with a L151bn profit in 1996.

The loss reflects the bank's decision to clean up its balance sheet by making sweeping provisions and write-downs on its non-performing loans ahead of privatisation.

It is planning to merge with Banco di Napoli and is anxious to attract other banking allies to form one of the country's largest banking groups at a time of rapid consolidation in the industry. BNL said the bank had performed satisfactorily in 1997 with gross group operating income rising by 10 per cent to L2,315bn.
Paul Betts

BELGIUM

One-off gains boost GBL

One-off gains boosted 1997 profits at Groupe Bruxelles Lambert, Belgium's second-biggest holding company, controlled by the financier Baron Albert Frère, from BFr16.9bn to BFr31.73bn ($833m). Gains included BFr15.44bn on the group's sale of its stake in Banque Bruxelles Lambert to ING of the Netherlands, and BFr4.79bn on the sale by its subsidiary Audiofina of a 16.7 per cent share in CLT-Ufa, Europe's largest commercial broadcaster, to Germany's Bertelsmann. Underlying net profits increased 14.7 per cent from BFr6.66bn to BFr7.64bn.
Neil Buckley, Brussels

OIL AND GAS

Wintershall chief confident

Wintershall, the oil and gas subsidiary of the German chemicals group BASF, said yesterday it expected profits to hold firm in 1998 despite the recent fall in oil prices. Herbert Detharding, chairman, said earnings this year were expected to be in line with those in 1997, when the group's consolidated pre-tax profits increased 26 per cent to DM1bn. Net sales – turnover less oil and gas taxes, which are passed on to the government – rose 21.6 per cent to DM6.7bn ($3.63bn). Wintershall passed on DM329m in post-tax earnings to BASF.

In 1997 output of oil rose 7 per cent to 7.8bn tonnes. Wintershall said it intended to step up exploration and production this year. In 1997 it spent DM189m on exploration, up from DM115 in 1996. **Frederick Stüdemann, Berlin**

FOOD PROCESSING

Eridania shares jump

Shares in Eridania Béghin-Say, the French foods group, rose more than 5 per cent yesterday on the announcement of a 14.7 per cent jump in 1997 profits to FFr1.9bn ($307m) from FFr1.66bn. The group, controlled 50.4 per cent by Montedison, the Italian conglomerate, also forecast 1998 results would be better because of good harvests, improvements in the US sweeteners market and expansion in eastern Europe.

A 6 per cent rise in the dividend to FFr35 from FFr33 per share is proposed. During the year, turnover increased 15.8 per cent to FFr63.65bn from FFr54.97bn, helped by strong growth from French sugar operations. Sugar and its derivatives accounted for 21 per cent of turnover but generated 41 per cent of operating income, which rose from FFr3.75bn to FFr3.97bn.

Net debt edged up to FFr15.49bn from FFr14.08bn, largely due to demands of stock financing. It is proposed to simplify the holding structure, merging Eridania Béghin-Say with its wholly-owned subsidiary European Sugars France, leaving Montedison's controlling stake unaltered. **Robert Graham, Paris**

ISRAEL

Bank Leumi doubles net

Bank Leumi, Israel's second largest banking group, yesterday said net profits more than doubled last year, due to one-off income from the sale of non-financial subsidiaries.

Net profits jumped from Shk604m in 1996 to Shk1.26bn ($331m) in 1997, excluding one-off income and expenses in both years. Including the one-off items, net profit climbed 22 per cent from Shk663m to Shk810m. Return on equity, excluding the disposals, increased from 8 per cent to 10 per cent over the same period.

Income from financing activities before provisions for doubtful debt climbed 11 per cent Shk3.52bn in 1996 to Shk3.92bn last year. However, provisions for doubtful debts rose from Shk653m to Shk726m. **Avi Machlis, Tel Aviv**

COMPUTER MERGER DETAILS OF REDUNDANCIES TO BE MADE PUBLIC IN SEC FILING

Digital chief expects to quit new group

By Paul Taylor in Boston

Robert Palmer, Digital Equipment chief executive, has indicated that he is unlikely to remain with the computer group after the proposed merger with Compaq Computer is completed.

Mr Palmer, who joined Digital in 1985, said he had yet to discuss his future with Eckhard Pfeiffer, Compaq chief executive. "Certainly after the merger is approved I have said we should sit down to discuss the issue," he said. "You do not need two chief executive officers and I certainly would not accept a 'make-work' role."

There has been growing speculation about what Mr Palmer, who became chief executive in 1992, might do after the merger, which will create a powerful third force in the full-service enterprise computing market, alongside IBM and Hewlett-Packard.

Analysts have suggested that Mr Palmer, an industry veteran and accomplished semiconductor engineer who co-founded Mostek in 1969, might retire after the merger. The deal is subject to shareholder and Federal Trade Commission approval but is expected to be completed by June.

However, Mr Palmer suggested he had other ambitions. "I am still relatively young," he said.

He said it was "too early to speculate" about redundancies among Digital's 54,000 workforce and that detailed plans would be made public when the two companies filed their proxy statement with the US Securities and Exchange Commission, expected in the next few weeks.

He said there was "relatively little" overlap between the two companies' products, although he accepted there would have to be a "rationalisation" of some operations – particularly the engineering, sales and services operations. "Customers do not want three salesmen [one each from Compaq, Tandem and Digital] in the lobby," he said. Other senior Digital executives acknowledged that there would also be job losses among head office staff.

"Compaq has demonstrated greater manufacturing efficiency and higher sales per employee while Digital is known for its architecture and engineering excellence," Mr Palmer said. He has said the merged company would be headquartered in Houston, and that it would carry the Compaq name.

However, he expressed confidence that Digital's core technologies would survive and noted that Mr Pfeiffer has publicly stated his commitment to Digital's Alpha microprocessor technology and its 64-bit Unix and Open VMS operating systems. He said he expected Alpha to continue to provide a high performance platform for the merged group's customers.

Mr Palmer said he remained "very optimistic" about the acquisition by Compaq, although he acknowledged that few mergers in the high-tech industry succeed. "Very few combinations make as much sense as this one," he said.

GMM taps bond markets

By Henry Tricks in Mexico City

Grupo Minero México, Mexico's biggest mining company, yesterday completed the largest Latin American private-sector bond offering since the Asian crisis, despite a slump in world copper prices.

ING Barings, sole lead-manager for the transaction, said GMM issued $500m guaranteed senior notes, $375m with a 10-year maturity and $125m at 30 years.

The 30-year tranche was unprecedented for a Mexican private-sector issuer, said Leonel Narea, ING Baring's head of debt capital markets in Latin America. He said $420m of the debt would be used by Grupo Mexico, GMM's parent company, to pay for the purchase of a privatised Mexican railway.

The Pacifico-Norte railway has been hit by a labour dispute since the Grupo Mexico concession opened in February. Grupo Mexico's partner in the railway, Union Pacific of the US, has also been plagued by delivery problems across the US-Mexican border.

The bond offering comes at a time of soft world copper prices that have halted several investment projects in mines in Latin America. Copper and zinc accounted for some 80 per cent of GMM's $1.3bn sales in 1997.

Industry analysts said the bond's success could indicate that pessimism about Latin American mining had peaked after the price collapse, especially for companies such as GMM, which have low costs.

The bond was rated above Mexico's sovereign ceiling by Moody's Investors Service, the US rating agency, partly because of GMM's financial strength and also because of guarantees that cushion foreign exchange risk, such as the payment of dollar export receivables into an offshore account that will be made available in the event of currency restrictions.

Moody's said GMM was partly sheltered from the drop in copper demand in the wake of the Asian crisis because of its strong cash position and improving grades of copper deposits. Also only 3 per cent of its sales are to Asia.

Scios up on new heart drug hopes

By Victoria Griffith in Boston

Shares in Scios surged yesterday after the biotechnology group released clinical results for a new acute congestive heart failure treatment and said it would be filing for approval with the Food & Drug Administration within 30 days.

The company's stock was up 6.5 per cent to $12 11/16 at noon.

Richard Casey, chief executive of the California-based company, predicted that global sales of the product would reach nearly $2bn annually. However, David Stone, a biotechnology analyst at Cowen & Co, put the drug's potential at half that figure. "There's no question that Scios' product is effective, but to really understand how much it will sell we need to see head-to-head studies that show how it compares to existing treatments," said Mr Stone.

The new treatment is the recombinant version of a naturally occurring hormone that is part of the body's normal response to a heart attack. The hormone, known as "BNP" was discovered in pigs in 1988 and isolated in humans the following year. BNP works by relaxing blood vessels, boosting fluid excretion and increasing sodium retention. Heart failure affects 4.9m Americans a year. Scios' drug is aimed at the 1m of those patients who go to hospital.

Scios said it planned to announce a global marketing agreement with a large pharmaceutical company for the new drug within the next few weeks.

Even before this week's announcement, Scios' share price had quadrupled since last May.

Columbia to absorb TriStar

By Michiyo Nakamoto in Tokyo and Alice Rawsthorn in London

TriStar Pictures, one of the best-known Hollywood brand names, is to disappear following the decision of Sony Pictures to fold the studio into its larger Columbia Pictures subsidiary.

John Calley, the former film producer and MGM executive who took charge of Sony Pictures as president and chief operating officer last year, said that pooling production through two studios had led to inefficiency and internal rivalry.

The future of TriStar, which was formed 16 years ago by a joint venture between Columbia Pictures, CBS Television and Home Box Office, has been in doubt ever since Sony, the Japanese electronics group, acquired it and Columbia Pictures in 1989.

TriStar has had a series of box office successes, including the recent hits *As Good As It Gets* and *My Best Friend's Wedding*, but it has not carved out an independent identity from the 74-year-old Columbia.

Sony executives stressed in Tokyo yesterday that the decision to fold TriStar into Columbia had been taken by Mr Calley's team in Los Angeles, and did not stem from corporate headquarters in Japan.

However, the Japanese parent company has taken a more hands-on approach towards Sony Pictures since Nobuyuki Idei's appointment as group president. By the time he took the top job, Sony had poured huge amounts of capital into its film subsidiary and written down $3.2bn on its investment.

Mr Idei, a cosmopolitan manager who had worked extensively outside Japan, quickly made his mark with the removal of Mickey Schulhof, who had led Sony into Hollywood as head of its US interests. After installing his own executive team at Sony's US operations in 1996, Mr Idei indicated Tokyo would be taking a more activist approach.

Jack Nicholson in the TriStar success 'As Good As It Gets'

This change of strategy was highlighted by the abrupt departure earlier this year of Jeffrey Sagansky, co-president of the film and television company. He cited intervention from the Japanese parent company as the main reason for his leaving.

Recently, Sony Pictures has become a star contributor to group profits. *Godzilla*, another TriStar picture, is tipped to be one of the highest-grossing films of this summer.

NEWS DIGEST

ENTERTAINMENT

Universal may open European theme park

Universal Studios, the US film and television group owned by Seagram, the Canadian drinks company, is considering opening a theme park in Europe in the next phase of its international expansion, it disclosed yesterday. Edgar Bronfman, chief executive of Seagram, said the company was "looking at a number of opportunities" in Europe. It is already planning to open a Universal Studios theme park in Osaka, Japan, in three years' time.

Mr Bronfman told a Variety/Schroders Big Picture entertainment conference in New York that Seagram regarded expansion of theme parks as an important part of its effort to create a stronger brand from Universal. He said Universal's theme park brand was intended to be "a little edgier, a bit more thrilling and more exhilarating" than that of Disney.

He declined to comment on the opportunities it was examining.
John Gapper, New York

INVESTMENT BANKING

Rosenfeld quits Lazard Frères

Gerard Rosenfeld, head of investment banking at Lazard Frères, the Wall Street investment bank, has left the firm to run a new private equity fund at NationsBank Montgomery Securities.

He will be a senior managing director of the firm. His departure follows the resignation 10 days ago of Kendrick Wilson, who headed Lazard's financial institutions group.

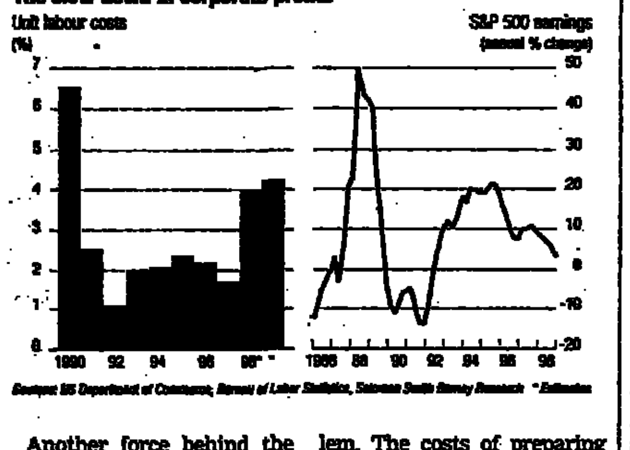
Mr Wilson left to become a partner at Goldman Sachs.
Tracy Corrigan, New York

Wall St feels the chill blowing in from Asia

By Richard Waters and John Labate in New York

The long surge in corporate earnings that has underpinned Wall Street's 1990s bull market is far from over. However, after six years of tremendous advances, the rate of growth in corporate profits is about to slow markedly – a new and potentially troubling experience for a stock market accustomed to double-digit earnings gains every year.

The slow down in corporate profits



Sources: US Department of Commerce; Bureau of Labor Statistics; Salomon Smith Barney Research *Estimates

The quarter which ended yesterday will, by general consent, result in the weakest year-on-year earnings gains since the mild recession of the early 1990s. IBES, which measures the forecasts of Wall Street analysts, puts expected growth in earnings per share for companies in the Standard & Poor's 500 index at 1.1 per cent: First Call projects 0.7 per cent.

This would be the most anaemic rate of growth in six years. And it reflects a marked shift in sentiment on Wall Street over the past two months. Earlier hopes that earnings would rise by as much as 10 per cent on average have vanished, blown away by the strength of the dollar and the cold economic wind from Asia. "We've had a lot of very favourable trends that have presided for a very long time," says Dick Hoey, investment manager at Dreyfus, a mutual fund concern. "It's getting to be a more challenging environment."

Two of the strongest factors behind the earnings boom have been the collapse in US corporate tax and interest rates. Analysts such as Martin Barnes at Bank Credit Analyst have pointed out for some time that these represent only a one-off boost to profits.

Another force behind the high price/earnings multiples on some stocks – if not yet on their actual earnings – has been what Mr Hoey calls "the great profit benefit of globalisation". This held that corporate earnings could expand at a faster rate than US economic growth indefinitely, as long as new world markets were opening up to US companies. Asia's collapse will be most clearly seen in the earnings of technology companies.

At home, meanwhile, the steady expansion in profit margins that has characterised the 1990s could soon grind to a halt. True, US companies have learnt how to live with fierce price competition in their domestic market and still grow earnings. However, the slow growth of labour costs and a renewed jump in productivity over the past two years have helped: these factors have more than made up for the inability to raise prices, according to analysis at Morgan Stanley Dean Witter. Now, with national unemployment at 4.6 per cent, there are signs that wage pressures are finally stirring.

Adding to this more gloomy outlook is the wild card of the Year 2000 problem. The costs of preparing computer systems for the turn of the century will not be small: General Motors estimates it will spend $600m this year, as does Citicorp.

Against these headwinds, US companies can list three things in their favour: a continued effort to cut costs, more attention to the efficient use of their capital, and greater use of financial engineering.

The first two have been hallmarks of the 1990s. The most successful American companies have proved adept at constantly turning the screw on costs and raising the performance bar by shedding their least profitable assets.

At the same time, takeovers and restructurings have become endemic. The big write-downs that accompany such actions help to puff up future earnings and boost the stated return on capital. These may not be forces that will sustain double-digit earnings gains for ever – and the Justice Department has shown signs of awakening to the potentially anti-competitive effects of consolidation. However, many big companies seem to believe there is grist to feed this mill for some time.

Echlin warns of effect on customers of SPX merger

By Richard Tomkins in New York

Echlin, the US car parts maker fighting an unwanted $3bn bid from SPX, strongly defended its independence yesterday, warning that a merger with SPX would be "extremely destructive" to customer relations.

It said its outlook was bright as an independent company, and profits were running ahead of expectations. Earnings per share should reach $2.40-$2.50 in the financial year ending August 31, compared with analysts' forecasts of $2.28.

The growth was expected to continue as the company's repositioning programme moved into its second phase, Echlin said. Earnings per share were expected to be $3.65-$3.80 in the next financial year, and $4.40-$4.55 in the year after that.

Last week Echlin lost a legal battle to delay shareholder consideration of SPX's approach. It had hoped to delay a meeting until December to allow more time for its financial turnround to show through, but now faces a vote by June 25.

Yesterday, Larry McCurdy, chairman and chief executive, told a meeting of analysts and investors in New York that Echlin would continue to evaluate SPX's proposal, even though there was no formal offer on the table.

Nevertheless, Mr McCurdy said, the Echlin board was "extremely concerned about the lack of a business logic" of an Echlin-SPX combination, and about the effects it would have on shareholders, customers, employees, suppliers and others.

"It appears that there are very few synergies between Echlin's operations and SPX's, and that the resultant cost savings of a combination would be considerably less than those SPX currently estimates," Mr McCurdy said.

"Moreover, SPX does not appear to understand Echlin's business, and a combination of our two companies, along the lines SPX spelled out in its new distribution concept, would be extremely destructive to our long-term relationship with customers."

Mr McCurdy said "solid historical precedent" demonstrated that a sizeable loss of business occurred "when an industry player naively attempts to reinvent the established channels of distribution".

Losses at CME widen to $85.1m

By Kevin Done, East Europe Correspondent

Net losses at Central European Media Enterprises, the US pioneer of private commercial television in central and east Europe, almost tripled in 1997, from $30m a year earlier to $85.1m.

The company, which has operations in seven countries, made operating losses of $40.6m against a profit of $10m last time.

CME was hit by the heavy cost of launching new TV stations last autumn in Poland and in Hungary as well as by higher expenses for more locally produced programming in most of its markets.

There was also a charge of $27.4m against its abortive foray into the German regional TV market.

CME disclosed it had withdrawn altogether from the German TV market at the end of last year. It has transferred its equity interest in stations in Nuremberg, Leipzig and Dresden for a nominal amount to Dietmar Straube, formerly the group's managing director in the country.

The CME board, led by Ronald Lauder, one of the heirs to the Estée Lauder cosmetics fortune and the majority CME shareholder, has been reshuffled.

At the end of last week CME replaced Leonard Fertig, chief executive, with Michel Delloye, formerly head of CLT, the international media group, in an attempt to improve the profitability of the group's existing operations and slow its hectic expansion in new markets.

The CME share price on the Nasdaq stock market rose sharply from $22.25 to $29 in the week before the management changes and results were announced.

Last year the group increased consolidated net turnover by 14 per cent to $155.4m, helped by the expansion of its operations in Romania and Slovenia.

Combined net turnover of CME's related TV operations, including those in which it has minority voting interests, rose 43 per cent to $205m.

CME said that in the fourth quarter last year all five stations launched between 1994 and 1996 in the Czech Republic, Romania, Slovenia, Slovakia and Ukraine achieved positive earnings before interest, tax, depreciation and amortisation, and had a positive broadcast cash flow.

In Poland and Hungary, TVN and TV3 had negative broadcast cash flows of $28.6m and $9.9m respectively.

Chiroscience shares jump on Zeneca deal

By Daniel Green

Chiroscience, the UK biotechnology company, yesterday announced that Zeneca, the pharmaceuticals company, would market its anaesthetic Chirocaine, prompting a 23 per cent jump in its share price.

Both companies said the deal should bring in £200m in revenues for Chiroscience, but John Padfield, Chiroscience's chief executive, said this figure was deliberately conservative.

As part of the deal Zeneca, the UK's third largest pharmaceuticals company, will pay £15m for 3.17 per cent of the company in newly issued shares. That investment values the shares at 425p each, against yesterday's closing price of 323½p.

The deal has been long expected by analysts, and the share price rise confirms Chiroscience's position as one of the UK's top three biotechnology companies by market value behind British Biotech and Shire Pharmaceuticals. Chiroscience floated in 1992 at 150p.

The drug is likely to be launched in its first European markets this year. Chiroscience plans to submit it for US regulatory approval this month [April], with the launch there likely next year.

The deal is the latest in a series by Chiroscience. Last month it signed a collaboration agreement with US company Bristol-Myers Squibb, and last year agreed a similar contract with US drugs company Schering-Plough.

Chirocaine is a long acting local anaesthetic that is a purified version of an old drug bupivacaine (sold under the trade name Marcaine).

Bupivacaine is a mixture of two molecules that are chemically identical but physically are mirror images of each other. Doses of bupivacaine are limited by side-effects that are associated with one of the mirror images and have been linked with 90 deaths since the drug was launched in the 1970s.

Chirocaine is the other mirror image, so Zeneca and Chiroscience believe it will both replace bupivacaine and allow new uses that have so far been prevented through fear of side-effects.

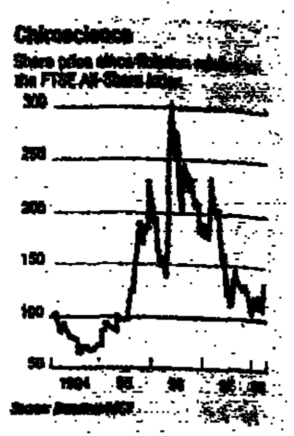
Bupivacaine's patents have expired, but those protecting Chirocaine last until 2014.

Chiroscience spent only £25m developing the drug, about one tenth the figure for most new medicines, largely because the drug is a purer version of bupivacaine. It is likely to be used mostly in surgery and in pain relief during childbirth.

Zeneca is a logical partner for Chiroscience in that it is already marketing anaesthetics.

COMMENT

Chiroscience



Chiroscience's licensing deal for its anaesthetic relieves some of the pain biotech shareholders have felt over the past year. But it is a measure of investor scepticism that biotech shares fall together but rise alone. Yesterday's agreement with Zeneca should, however, make Chiroscience less vulnerable to the next attack of market nerves. Endorsement from a pharmaceutical heavyweight provides independent validation of the company's research. This is invaluable in a sector that measures progress by medical trials rather than profits. Using Zeneca's marketing muscle to sell Chiroscience's anaesthetic also makes perfect sense. Not only does Zeneca have more people but it can package the anaesthetic with other drugs when making a pitch to cash-strapped hospitals. The pressure will be on others in the sector, such as British Biotech, to step up licencing activity. True, this is not a panacea for all drug development. But with investor confidence still shaky, a tie-up with a reputable pharmaceutical company eases pressures on cash flow without having to tap shareholders. Moreover, if yesterday's deal is any indication, the biotech companies are extracting improved royalty terms from the drugs giants. These need strong drug pipelines and biotech companies have the innovative culture to deliver them.

Computacenter

For those nervous of outsourcing, here comes its less threatening cousin: "out-tasking". Computacenter, the information technology services group planning a May flotation, distributes new computer kit to companies and then helps them use it. It may not sound as glamorous as consultancy, but it still offers considerable opportunities for growth.

Any concerns are to do with the shape of the market as it affects Computacenter's suppliers and customers. One risk is that the IT manufacturers decide to bypass middlemen like Computacenter and sell direct to the customer. Fortunately for Computacenter, there are no signs of this happening yet. Another concern is that a number of its biggest customers, such as banks, are consolidating. In the short term, this is a boost, as mergers produce IT confusion. Longer term, though, fewer traders means fewer computer screens, and less need for Computacenter.

Bluebird clause causes bid row

By Andrew Edgecliffe-Johnson and David Blackwell

Guinness Peat Group has protested to the Takeover Panel and Stock Exchange about the decision by Mattel to change a key contract with Bluebird Toys.

The investment group and the world's largest toy maker have made competing bids for Bluebird, the company behind Polly Pocket.

Blake Nixon, an executive director of Guinness Peat, said: "We are pushing for the dissemination of information. You cannot draw conclusions when you only have half the facts."

The takeover panel said last night it was "completely comfortable" that Bluebird's board had not breached rule 21 of the takeover code by collaborating with Mattel in any "frustrating action".

A clause in Bluebird's eight-year-old distribution contract with Mattel allows the US group to take control of the manufacture of Polly Pocket toys and to restrict Bluebird's margins in other markets.

One analyst described the revelation of the clause on Monday as "pretty scandalous. It is a very material contract in terms of Bluebird's worth and shareholders had no idea it was in place".

A large shareholder complained that there was not a single mention of the clause in Bluebird's defence document. "This is a disgrace."

However another observer, while admitting a significant impact on Bluebird's profits, described the contract as "in the normal course of trading". He added that Mattel had driven a hard bargain, hence Bluebird's grudging recommendation of its £46m ($77m) offer.

The Takeover Panel's ultimate sanction would be to nullify the Mattel bid. That would leave shareholders 10p per share worse off.

Metromail accepts GUS bid

By Peggy Hollinger

Great Universal Stores yesterday appeared to have won the battle for Metromail, the Illinois database marketing company which was the subject of rival bids from the UK mail order house and American Business Information of Omaha.

Metromail's board said it was recommending GUS's bid of $34.50 a share, valuing it at $910m including debt. ABI had failed to meet the Monday noon deadline to supply all documentation and finalised financing commitments for its bid of $37.48 a share, comprising $35 in cash and 0.2 shares of ABI class A common stock.

The recommendation cleared the way for GUS to complete the deal last night, on the final day of its 1998 financial year. Had the deal been delayed until today, it would have been forced to write off the substantial goodwill on acquisition through the profit and loss account. GUS will now call on agreements with Metromail's largest shareholder, RR Donnelly, and management which entitle it to buy 51 per cent of the company.

ABI refused to surrender and said it was appealing against a court decision last week to reject its request for an injunction to block the GUS deal. The two companies had originally agreed a takeover deal at $31.50 a share which ABI alleged was against the interests of Metromail's shareholders by acting as an obstacle to a fair auction process.

RESULTS

		Turnover (£m)		Pre-tax profit (£m)		EPS (p)		Dividends: Current payment (p)	Date of payment	Corresponding dividend	Total for year	Total last year
AG	6 mths to Jan 31	17.7	(15.6)	1.16	(1.44)	4†	(5.1)	2.25	July 1	2.25	-	6.25
Aquarius	Yr to Jan 31	35.6	(30.6)	5.36	(3.54)	18.04†	(15.81)	5.69	July 1	0.85	9	0.85
Arcolectric	Yr to Dec 31	16.3	(13.8)	1.11	(0.603)	11.24	(7.69*)	0.772	May 18	-	1.581	1.437*
Avonmore Waterford ♣	Yr to Jan 3	2,370	(2,363)	117.8L♠	(56.3-)	40.94L	(14.1)	2.85	June 3	2.6	4.9	4.5
Chime Comms	Yr to Dec 31	42.4	(33.7)	3.83	(3.72)	3.8	(4.5)	1.25	June 25	1.15	1.9	1.7
CIA	Yr to Dec 31	968.4	(773.8)	9.52	(4.92♠)	9.11†	(3.23)	2.08	May 29	1.77	2.72	2.35
Core	Yr to Dec 31	0.016	(0.003)	4.69L	(2.81L)	17.2L	(-)	-	-	-	-	-
Cornwell Parker	6 mths to Jan 31	45.8	(45.2)	3.31	(7.29♥)	5.3	(13)	1.3	May 2	1	-	3
Dean Corp	Yr to Dec 31	31.7	(14.9)	1.3♥	(0.931♠)	2.02†	(1.66)	0.4	May 22	0.3	0.7	0.5
Densitron Intl	Yr to Dec 31	39.3	(42.1)	1.71	(1.19♠)	1.66	(1.21)	1	June 8	1	1.6	1.8
Druid	6 mths to Dec 31	14.3	(9.38)	2.4	(1.8)	6.92	(4.51)	1.25	Apr 20	0.8	-	2.9
Emstone	Yr to Dec 31 ☆	14.2	(4.13)	0.221L	(10.4L♠)	1.13L†	(1,131L)	nil	-	nil	nil	nil
French	Yr to Oct 3	26.5	(16.3)	0.013	(0.627)	2.01L†	(3.44)	nil	-	2.25	1.575	3.75
Hepworth	Yr to Dec 31	648.5	(777.8)	11.7L♠	(67.6♥)	8L	(18.5)	6	July 10	9.35	9	14.85
Highland Dist	6 mths to Feb 28	113.7	(110.1)	25.1	(24.9)	12.5	(12.5)	2.2	June 1	2.1	-	8.9
Huntingdon Life	Yr to Dec 31	63.7	(73.6)	7.16L♠	(9.35)	4.7L	(7)	nil	-	nil	nil	nil
IES Φ	6 mths to Dec 31	3.29	(2.37)	0.266L♠	(0.907L♠)	1.5L†	(4.5L)	nil	-	0.2	-	0.6
Intereuropa Tech	6 mths to Dec 31	2.78	(3.06)	0.437	(0.446)	1.1	(1.1)	6.51	May 8	6.45	-	13.6
Jacobs	Yr to Dec 31	58.9	(41.7)	2.97♠	(3.01)	2.3	(3.4)	1.75	May 20	1.5	2.25	1.875
Lamont	Yr to Dec 31	95.1	(122)	7.49♥	(8.64L♠)	20.01	(20.55L)	9.15	July 1	8.15	12.8	12.8
LucasVarity	Yr to Jan 31	4,681	(4,600)	316♠	(27.8♠)	14.7	(-)	2.25	July 1	-	4.5	-
Monument Oil & Gas	Yr to Dec 31	89	(52.6)	19.6	(12.4♠)	2.8	(1.76)	-	-	-	-	-
Moorfield Estates	Yr to Dec 31	10.6	(6)	2.03	(0.059)	1.12	(0.2L)	0.3	May 18	0.25	0.55	0.5
Oliver	Yr to Jan 31 ‡	72.4	(69.7)	2.21L♠	(3.12♥)	8.73L	(12.32)	nil	-	nil	nil	nil
Oxford Molecular	Yr to Dec 31	15.6	(9.79)	0.256	(1.85L)	0.2†	(3.3L)	-	-	-	-	-
PGA European Tour	Yr to Dec 31	8.56	(4.06)	1.22♥	(2.77♥)	1†	(4.4)	nil	-	0.05	nil	0.05
Pittencrieff	Yr to Dec 31	12.2	(13)	10.8L♠	(1.7)	18.51L	(2.96)	nil	-	nil	nil	nil
Pressac	6 mths to Jan 31	56.2	(36.1)	4.49	(2.92)	5.18†	(4.7)	1.21	May 22	1.1	-	4.3
QS	53 wks to Jan 31	58.5	(59.2)	0.28	(0.148L)	0.07	(0.39L)	-	-	-	-	-
Quadrant	6 mths to Nov 30	15.2	(25.9)	0.323L♥	(0.657)	6.2L	(38.6L)	-	-	-	-	nil
Radamec	Yr to Dec 31 ★	14.2	(16.5)	1.37♥	(1.26)	5.5	(4.5)	2	July 3	2	3.1	3
Rathbone Brothers	Yr to Dec 31	50.5	(35.8)	10.8♠	(9.61)	24.95†	(24.87)	9	May 15	7.5	14	11.5
Ruberoid	Yr to Dec 31	188.3	(211.5)	6.61	(1.21♠)	8.8	(0.3L)	4.2大	May 29	4.2大	6.1大大	6.1大大
Rugby	Yr to Dec 31 ★	1,065	(1,196)	68.1♠	(53.9♠)	7.4	(5.4)	2.35	June 26	2.1	4	3.6
Russell (Alex)	Yr to Dec 31	42.8	(38.9)	2.8	(2.83)	6.62	(6.31)	1.8	May 29	1.6	3	2.7
Save	Yr to Dec 31	420.6	(429.7)	7.32♠	(10.4)	9.7	(12.9)	3.9	July 1	3.9	7.1	7.1
Silver Shield	6 mths to Nov 30	3.3	(1.46)	0.197L♠	(0.081)	0.13L	(0.04)	-	-	-	-	-
Smurfit (J) ♣	Yr to Dec 31	2,571	(2,594)	150.2♥	(201.1)	9.8	(12.6)	2.97#	June 30	2.7	1.85	4.2
United Assurance	Yr to Dec 31	-	(-)	226.7♠	(548.9♥)	40.2	(151.3)	14	June 1	12.6	21	18

Investment Trusts		NAV (p)		Attributable Earnings (£m)		EPS (p)		Current payment (p)	Date of payment	Corresponding dividend	Total for year	Total last year
Henderson Japanese	6 mths to Jan 31	46.39	(71.47)	0.274L	(0.393L)	0.27L	(0.39L)	-	-	-	-	nil
London St Lawrence	6 mths to Feb 28	238.08	(208.57♦)	1.12	(0.889)	3.43	(2.71)	3.15	May 22	3.12	-	6.4
Radiotrust	Yr to Jan 31	132.78	(128.84)	0.211	(0.215)	2.45	(2.5)	2.33	June 30	2	2.33	2
St David's	3 mths to Feb 28	453	(282)	0.291	(0.111)	3.56	(1.35)	-	-	-	-	19
Schroder Split	Yr to Jan 31	157.65	(119.11)	4.73	(4.62)	8.36	(8.16)	2.3	§	2.2	8.6	8.2
Second St David's	3 mths to Feb 28	-	(-)	0.139	(0.201)	-	(-)	2	Apr 30	2	-	17

Earnings shown basic. Dividends shown net. Figures in brackets are for corresponding period. ♣Irish currency. *After adjustment for scrip issue. ♠After exceptional charge. ♥After exceptional credit. †On increased capital. ☆Comparatives for nine months. ΦAim stock. ‡Comparatives for 57 weeks. 大Foreign income dividend. 大大Includes FID elemnt. ★Comparatives restated. #First interim for 1998. ♦At August 31. §Alreday paid.

هكذا من الأصل

LucasVarity has £1bn for acquisitions

By Andrew Edgecliffe-Johnson

LucasVarity has up to £1bn ($1.67bn) to spend on acquisitions, Victor Rice, its chief executive, said yesterday. If it had not decided what to spend it on within six months, he added, the car components and aerospace group would consider handing more cash back to shareholders.

Competition issues ruled out a bid for the brakes division of ITT, analysts said, but LucasVarity could be attracted to Arvin of the US, which makes struts for car ride control systems.

The group reported pre-tax profits for the year to January 31 of £316m, up from £27.8m the previous year, when the figures were hit by exceptional charges relating to the September 1996 merger of Lucas Industries and Varity Corporation. Before exceptional items, profits were 17 per cent higher at £329m.

The company beat its targets for merger-related cost savings, with £43m of cost cuts and £74m of working capital reductions. Mr Rice predicted another £50m of cost and working capital savings this year.

Mark Little, an analyst with NatWest Markets, pointed out that braking margins had held up well under pricing pressures.

The group also announced its biggest brakes contract since the merger yesterday. It will supply advanced control systems for some of General Motors' passenger cars, including anti-lock braking, traction control and vehicle stability control systems.

Mr Rice described the contract as "the perfect example" of why the merger was done, saying that the two companies could not have provided such integrated systems alone.

The contract follows £650m worth of contract wins in diesel systems and a £2bn risk and revenue sharing agreement with Rolls-Royce for engine control systems.

Looking towards the coming year, Mr Rice said the growth in light truck sales in North America should support growth in braking systems, and French automotive markets were picking up. Aerospace markets remained robust, but aftermarket sales were seeing mixed conditions.

The shares put on 3½p to 241½p. Merrill Lynch expects pre-tax profits of £366m this year, putting the shares on 14 times earnings.

Computacenter to be valued at up to £900m

By Susanna Voyle

Computacenter, the UK's largest private IT group, yesterday said its flotation in May would value it at between £850m and £900m ($1.5bn).

The float – the biggest in the UK IT sector – will involve about 25 per cent of the group's ordinary shares. Computacenter supplies personal computers and systems integration services to businesses and government. It lists 51 of the FTSE-100 index companies as clients.

The company's 3,300 employees stand to make an average windfall gain of £600 when £2m of free shares are distributed among them.

Philip Hulme, chairman, said the flotation would give liquidity to institutions and employees who already hold shares. He stressed that the existing management would retain a significant equity stake.

The shares will be marketed to institutional investors in the UK and internationally. Goldman Sachs is co-ordinating the float – which will not include a retail offer.

The company's existing investors include about 750 employees, who own about 18 per cent. Apax Partners, the venture capital group, owns 22 per cent while Foreign & Colonial holds 7 per cent. The balance of about 53 per cent is held equally by Mr Hulme and Peter Ogden, a non-executive director, who together founded the company in 1981. A pathfinder prospectus will be issued at the end of this month or beginning of May, followed by a roadshow.

Turnover in 1997 was £1.13bn against a pro forma £882.5m. Pre-tax profits rose 38 per cent to £47.1m.

Analysts said a valuation up to £900m seemed fair – and predicted that the shares would take off on flotation. "There is a scarcity premium for quality IT stocks in the UK," said one.

Industry analyst Richard Holway said: "I reckon that within seconds of the float the company will be valued at over £1bn."

Specialist Computer sells Byte chain to Dixons for $11.7m

By Alan Cane and Peggy Hollinger

Specialist Computer Holdings, the computer supplier, is pulling out of the fiercely competitive personal computer retail market with the sale of its loss-making Byte chain to Dixons, the UK's largest electricals group, for about £7m ($11.7m).

The disposal, expected to be announced today, marks the first high-profile retail casualty in a market that has seen a number of profit warnings from PC manufacturers and suppliers in recent months. Dixons was also forced to make a profits warning in January, partly due to a sharp slowdown in sales at its out-of-town PC World subsidiary.

However, the group has consistently said it believes there is substantial opportunity for growth in the UK. About 19 per cent of British households have a PC, compared with more than 40 per cent in the US. Dixons claims 12 per cent of the £5bn UK market.

The two companies were last night finalising the deal, which will give Dixons 16 stores of between 5,000 and 16,000 sq ft to add to its 50 PC World outlets, which average about 22,000 sq ft. It was unclear whether it will take over Byte's 45 concessions in Office World outlets.

Analysts said the acquisition could signal a shift in Dixons' strategy for PC World, which has been hampered in part by the rising rents at out of town sites. "They will probably do this to see if PC World works in smaller stores and then you will see a downsizing out of town," said one. "There is a lot of evidence to suggest the PC World sites have got too big."

Monument plans cash call two years after buy-back

By Virginia Marsh

Monument Oil & Gas, the UK independent, surprised the market yesterday with plans to make a rights issue, just two years after returning capital to shareholders.

Its shares lost 5p, 7.5 per cent, to close at 61½p, down from 91¾p a year ago.

The company, which recently agreed an oil barter deal with Iran, also said it was opening an office in Tehran and was actively seeking joint venture opportunities there.

In a move described by analysts as unusual, the company said it was planning a rights issue to raise about £100m ($168m), giving relatively few other details. It is more normal for companies to announce rights issues once they have been underwritten and when they are able to reveal their investment plans.

The move led to speculation that the company, whose chief executive is Tim Eggar, might be planning a large acquisition or be close to winning new acreage in the Caspian Sea region.

The group appeared confident it would win its first acreage in Azerbaijan and also succeed in extending its interests in Turkmenistan, along with its partner Mobil.

"The situation in Azerbaijan is very competitive but we wouldn't be talking about it if we weren't optimistic," said Mr Eggar.

The company also reported a 28 per cent increase in reserves to 138.2m barrels of oil equivalent last year with virtually all of the increase coming from Turkmenistan.

Production rose to 8.1m (5.3m) boe, averaging 22,200 boe a day. This helped lift net profit to £19.6m (£12.4m) on sales of £89m (£52.6m).

Fleming adopts buy-back stance

By Jean Eaglesham

Fleming Investment Trust Management has become the first big fund manager to recommend that all the boards of the trusts it runs agree to buy back their shares where appropriate.

Fleming, which manages 19 trusts with £4.7bn ($7.8bn) of assets, also told a meeting of 80 non-executive directors of its trusts that they should consider doing more to attract private investors.

The measures represent the most radical steps yet taken by a trust manager to try and reduce the discount between share prices and the value of the underlying assets.

While a number of individual trusts have bought back shares on wide discounts in recent months, this is the first time a group has adopted a wholesale buy-back approach.

"You might expect management groups to avoid buy-backs at all costs since it reduces their assets [under management] and therefore their fees," said Daniel Godfrey, Fleming's marketing director. "Our philosophy is that we may need to reduce fees in the short-term to have a healthy business in the long-term".

Fleming has also decided to target private investors, in open preference to institutions.

NOTICE OF REDEMPTION

To the Holders of

Wells Fargo & Company Floating Rate Subordinated Capital Notes due 1998

(the "Notes")

NOTICE IS HEREBY GIVEN that all of the outstanding Notes will be paid in cash at maturity on July 7, 1998 (the "Redemption Date") out of Dedicated Proceeds, as such term is defined in the Indenture identified below. Such date is subject to acceleration as provided in Section 12.02 of the Indenture. Dedicated Proceeds in the aggregate amount of U.S.$200 million will be paid to redeem the Notes in full. Upon presentation of any such Note on or after the Redemption Date, the holder thereof shall receive in cash the principal amount thereof. Interest on the Notes accrued to the Redemption Date will be paid to holders of Notes in bearer form upon presentation and surrender of the related interest coupons and to those persons in whose names Notes are registered at the close of business immediately prior to the fifteenth day next preceding the Redemption Date. Interest on the Notes will cease to accrue after the Redemption Date. The Notes are being redeemed pursuant to the provisions of the Indenture dated as of August 1, 1986 between Wells Fargo & Company and Morgan Guaranty Trust Company of New York, as Trustee. Payment of the Redemption Price will be made at any of the offices of the paying agents set forth below upon presentation and surrender of the Notes.

Under the provisions of the Internal Revenue Code, both principal and interest payments on securities held by U.S. persons may be subject to backup withholding of 31% of such payments if such holders have not certified their taxpayer identification numbers on Form W-9. U.S. persons who wish to avoid backup withholding should submit a completed and signed Form W-9 when presenting securities for payment.

Trustee and Principal Paying Agent

Morgan Guaranty Trust Company of New York
60 Victoria Embankment
London EC4Y 0JP

Paying Agents

Morgan Guaranty Trust Company of New York
Avenue des Arts, 35
B-1040 Brussels
Belgium

Swiss Bank Corporation
Paradeplatz 6
Zurich
CH-8010
Switzerland

Morgan Guaranty Trust Company of New York
14 Place Vendôme
Paris 75001
France

Kredietbank S.A. Luxembourgeoise
43 Boulevard Royal
L-2955
Luxembourg

Morgan Guaranty Trust Company of New York
Zweigniederlassung Frankfurt
Bockenheimer Landstrasse 2-4
60313 Frankfurt

Wells Fargo & Company
By: Morgan Guaranty Trust Company of New York
as Trustee

Dated: April 1, 1998

Investors await news on US rates

GOVERNMENT BONDS

By Vincent Boland in London and John Labate in New York

Prices ended mixed yesterday as investors awaited the outcome of a meeting of the Federal Open Market Committee, which sets US interest rate policy. Although no rate rise was expected, there was an air of caution about whether the Fed would shift its bias towards higher rates.

European markets were also interest rate-sensitive after Luis Angel Rojo, governor of the Bank of Spain, seemed to signal that further cuts in rates would come at a slower pace than expected because the country's economic growth was so strong.

Mr Rojo did not rule out further cuts, and the Spanish central bank is still expected to ease its money market rates in the next few weeks because of continued good inflation figures and European monetary union factors. Analysts said, however, that the prospect of no rate cut in Spain this week would hit hopes that Italian rates would also come down.

"Some central bank governors clearly do not want to be rushed into cutting rates while they are still keeping inflation in check. Given the strength of the Spanish economy and potential inflation, there are serious doubts whether Spanish interest rates should be cut now," said Jeremy Hawkins, at Bank of America.

Mr Rojo's comments hit SPANISH BONOS, which under-performed other European markets in fairly active trading, with the short end taking the brunt.

The June future settled unchanged at 108.82 with 105,000 contracts exchanged. The future had been as low as 108.55 but recovered when European markets perked up after the US posted good early gains.

ITALIAN BTPs were also undermined in quiet trading but closed well above the day's lows. The June future settled at 119.11, up 0.02, with 55,000 contracts changing hands, while in the cash market the yield spread over 10-year bunds ended at 28 basis points.

GERMAN BUNDS were range-bound, with investors awaiting results from the FOMC meeting, but they later firmed with Treasuries on the back of more US figures confirming the lack of inflation in the economy.

The June future settled 0.10 higher in London at 107.30, while in Frankfurt turnover was active at 350,000 contracts.

UK GILTS were better, outperforming bunds as sterling continued to soar – it climbed above DM3.10 early in the day before falling back. Analysts said the outlook for gilts in the context of the strong pound was good, because the possibility of another interest rate rise was minimised.

The June gilt future settled $\frac{11}{32}$ higher at $108\frac{5}{32}$ with 80,000 contracts traded on Liffe by early evening, while the spread over 10-year bunds contracted sharply to 106 basis points.

US TREASURIES were higher in morning trading. By early afternoon the benchmark 30-year bond had gained ½ to $102\frac{15}{32}$, sending the yield lower to 5.942 per cent. The two-year note rose $\frac{1}{16}$ to $99\frac{13}{16}$, yielding 5.600 per cent, while the 10-year note gained $\frac{5}{16}$ to $98\frac{25}{32}$, yielding 5.670 per cent.

Despite expectations that the Fed will not raise rates in the near term, the market has been weaker in recent weeks as the latest economic data have failed to show evidence of economic slowdown. A report by the Chicago Purchasing Managers yesterday continued to point to robust growth.

The Chicago business barometer rose to 59.5 in March, from 57.8 in February, but the bond market focused on the prices paid component. Prices paid dipped to 48.7 from 55.5.

"The bond market was thrilled to see signs of disinflation in this morning's Chicago report," said Patrick Dimick, treasury market analyst at UBS Securities.

● The UK debt management office takes over responsibility for gilt market operations today from the Bank of England.

Sabanci family sells stake in Akbank

By Vincent Boland

The Sabanci family, one of Turkey's leading business dynasties, has raised $123m through the sale to international investors of a 3.5 per cent stake in the family-controlled Akbank.

The shares, in the form of ADSs, were sold to mainly UK and US institutions, according to Morgan Stanley Dean Witter, global co-ordinator of the issue.

The sale is the first of several Turkish bank offerings expected this year. The government is planning to sell a stake in Isbank in the next few months that could raise up to $900m.

Each ADS represents 200 ordinary Akbank shares and was priced at $14, or TL17,000 an ordinary share. This is a discount of just over 4 per cent on the closing price of the shares on Monday, Morgan Stanley said. An over-allotment of 15 per cent of the size of the deal may also be exercised.

At the selling price Akbank has a market capitalisation of $3.5bn, and is the largest bank in Turkey in terms of equity capital.

The sale reduces the Sabanci family's stake in Akbank to about 44 per cent and increases the free float in the bank's share capital to 19 per cent.

● Solidere, the Lebanese company rebuilding Beirut's business district, is contemplating a second issue of global depositary receipts, according to bankers.

The offering, likely to be launched in coming weeks, would be priced at $14 to $15 a GDR and raise roughly $100m. In 1996, the company issued $77m of GDRs, which are currently trading in a $14 to $14.50 range.

US Treasury set to auction 30-year Tips

By John Labate in New York

The US Treasury is expected to demonstrate today its commitment to expand the inflation-linked securities market substantially, by announcing the auction of the first 30-year inflation-indexed bonds.

The sale of 30-year Tips, or Treasury index protected securities, will come amid rising concern among analysts that inflation will emerge by the year-end.

Although the Treasury has not confirmed the size of the first auction, analysts expect $8bn or more of the new securities to be sold.

Since the Treasury began issuing inflation-indexed bonds in early 1997, there have been auctions of only five-year and 10-year notes.

In the UK, inflation-linked issues have been available since 1981 and account for around 15 per cent of the UK government bond market.

Treasury officials have said the market for outstanding inflation-linked securities in the US could eventually reach $200bn, or about 5 to 6 per cent of the total outstanding market, compared with only $40bn at present.

The shorter-term securities issued so far have offered rising yields since mid-1997. US inflation has remained low and investors had expected the Asian financial crisis to create deflationary pressures on the US market in 1998.

However, while inflation has remained subdued, growth in housing, labour costs and consumer spending have remained strong, leading some to expect prices to rise later this year.

Any widespread change in inflation expectations could be good for TIPS, increasing demand for the issues.

"It appears the perception is that core consumer-price inflation is bottoming out at around 2 per cent. The market's perception and the economic data we get in the coming week could create additional demand for these securities," said Lee Youngdahl, vice-president and market analyst at Aubrey G. Lanston, the New York securities dealer.

The auction of new 30-year bonds is expected a week from today, in the wake of some important economic data on business activity and employment.

Some analysts believe the longer-term maturity issues will attract a broader audience of institutions, including pension funds.

"For inflation protection many institutional investors prefer long-term issues over short, since they are better at offsetting their liability risks which can last 20 years," said Dan Berstein, at Bridgewater Associates in Connecticut.

However, despite any change in inflation outlook, there is considerable scepticism about the Tips market.

"My feeling is these are not going to set the house on fire," said Gonzalo Cordova, senior fixed-income portfolio manager at Citibank Global Asset Management. "Since the beginning, demand for these things has been extremely tepid."

Even for the earliest Tips issues in early 1997, demand was mild in spite of concerns over the interest rate outlook, Mr Cordova added.

Borrowers give sterling a rest

INTERNATIONAL BONDS

By Samer Iskandar

Borrowers turned away from sterling yesterday, after more than a week of hectic activity. Bankers said the currency's rise against the D-Mark had been rapid, and it would take investors a while to become comfortable with the new levels.

The dollar sector saw almost $5.5bn of issuance, mainly concentrated in short and medium-term maturities. Syndicate managers believe borrowers will continue to focus on this sector in coming days, with several emerging market borrowers expected to make their return after last year's Asian financial crisis.

Some borrowers could also seek to establish benchmarks in European monetary union-participating currencies, one banker said.

LEBANON priced its $1bn two-tranche deal in line with expectations, with yield spreads of 246 basis points and 286 points, respectively, for the three-year and five-year tranches.

FANNIE MAE, the US mortgage lender, will today price its latest, $4bn issue of five-year benchmark notes at a yield spread of 17 to 18 basis points over Treasuries.

In the D-Mark sector SANTANDER INTERNATIONAL, the financing arm of the Spanish bank, raised DM500m with a seven-year maturity. Barclays Capital, lead manager, said buyers were a mix of institutional and retail investors.

Although retail buyers usually prefer to hold bonds with less than five years to run, Barclays said the steepness of the German yield curve had encouraged investors to accept the longer maturity in exchange for higher returns.

● NESTLE, the Swiss food group, issued $250m of seven-year convertible bonds. Credit Suisse First Boston, lead manager, said the issue would convert into existing shares. As a result, no new shares would be created and shareholders' earnings would not be diluted.

New international bond issues

Borrower	Amount m.	Coupon %	Price	Maturity	Fees %	Spread bp	Book-runner
US DOLLARS							
Fannie Mae	4bn	(a)#	(a)R	Apr 2003	-	(a)(5½Mar03)	B Stearns/Merrill/JPM
Republic of Lebanon	500	8.125	99.628R	Apr 2001	0.60R	+246(3yrUST)	Paribas
Republic of Lebanon	500	8.625	99.60R	Apr 2003	0.75R	+286(5yrUST)	Paribas
Nestlé Australia(b)§	250	1.25	100.00	2005	-	-	CSFB
Petrobras	130	8.25	100.00	Apr 2001	0.50	+260(5¾%-01)	Chase Manhattan Intl
Daimler-Benz NA Corp(c)	100	6.00	99.83R	Apr 2002	0.25R	+37(5%Feb01)	ABN Amro
D-MARKS							
Deutsche Ausgleichsbank	2bn	5.00	99.425R	Jul 2008	0.325R	+13(i)	Deutsche/HSBC Trinkaus
Santander International	500	5.00	99.873R	Apr 2005	0.30R	+25(7¾Jan05)	Barclays Capital
EUROS(e)							
Dow Chemical	150	5.00	100.00R	Jul 2003	0.30R	+34(4½Jul03)	Merrill Lynch/SBCWDR
SWEDISH KRONOR							
Bayerische Hypo	500	5.25	101.475	May 2004	1.875	-	Unibank
NEW ZEALAND DOLLARS							
LB Schleswig-Holstein	100	8.25	101.275	Apr 2001	1.50	-	Hambros/RBC Dominion
HONG KONG DOLLARS							
Council of Europe	1bn	8.05(d)	100.00	Apr 2000	0.20	-	HSBC Markets
RUSSIAN ROUBLES							
EBRD(f)	400	30.00	100.00R	Apr 2001	0.40R	-	ING Barings

Final terms, non-callable unless stated. Yield spread (over relevant government bond) at launch supplied by lead manager. §Convertible. #Semi-annual coupon. R: fixed re-offer price; fees shown at re-offer level. a) Priced today 17-18bp over Treasuries. b) Conversion price: SFr3,559.97. FX: 1.52SFr/$. c) $200m launched 3/3/98 increased to $300m. d) Quarterly. e) Pays in Ecu prior to Emu. Spread relates to French govt Ecu bonds. f) Payments in US$. i) Over interpolated yield.

WORLD BOND PRICES

BENCHMARK GOVERNMENT BONDS

Mar 31	Red Date	Coupon	Bid Price	Bid Yield	Day chg yield	Wk chg yield	Month chg yld	Year chg yld
Australia	04/00	7.000	103.8183	5.00	−0.01	+0.01	−0.20	−1.77
	10/07	10.000	130.6812	5.73	−0.03	−0.02	−0.22	−2.29
Austria	09/99	7.000	104.0400	4.08	−0.07	−0.05	+0.02	+0.04
	07/07	5.625	104.5600	4.99	−0.01	+0.05	−0.06	−0.78
Belgium	01/00	4.000	99.7900	4.12	−	+0.05	+0.07	+0.35
	03/07	6.250	108.6000	5.01	−	+0.08	−0.02	−0.96
Canada	09/99	4.750	99.7100	4.96	−	+0.06	−0.10	+0.02
	06/07	7.250	113.2000	5.38	−	+0.06	−0.09	−1.40
Denmark	12/99	6.000	102.6800	4.30	+0.01	+0.07	+0.13	−
	11/07	7.000	113.7600	5.15	−	+0.04	−0.11	−1.54
Finland	01/99	11.000	105.4655	3.73	+0.11	+0.06	+0.05	−0.14
	04/06	7.250	115.4510	4.88	−0.01	+0.06	−0.05	−1.41
France	01/00	4.000	99.8400	4.09	+0.03	+0.10	+0.14	+0.28
	10/04	6.750	111.3900	4.68	−0.01	+0.07	+0.01	−0.70
	10/07	5.500	104.1900	4.94	−0.01	+0.07	−0.02	−0.85
	10/25	6.000	107.2900	5.48	−0.02	+0.06	−0.03	−1.28
Germany	09/99	4.000	100.0600	3.94	+0.01	+0.06	+0.10	+0.26
	11/04	7.500	115.3300	4.74	−	+0.08	+0.02	−0.69
	07/07	6.000	107.9000	4.91	−0.02	+0.08	−0.03	−0.93
	07/27	6.500	114.6700	5.48	−0.01	+0.06	−0.04	−1.22
Ireland *	04/99	6.250	101.6000	4.58	−	+0.11	−0.19	−1.51
	08/06	8.000	119.5200	5.08	−	+0.08	−0.13	−1.84
Italy	05/00	8.000	102.8900	4.54	+0.03	+0.08	−0.15	−2.78
	05/02	6.250	105.5700	4.74	−	+0.07	−0.14	−2.74
	07/07	6.750	111.8800	5.12	−0.01	+0.05	−0.15	−2.64
	11/26	7.250	122.9100	5.63	−	+0.04	−0.16	−3.01
Japan	03/00	6.400	111.2500	0.59	−	+0.03	−0.03	−0.14
	12/02	4.800	116.4500	1.19	−	+0.04	−0.07	−0.49
	09/05	3.000	109.4900	1.64	−	+0.07	−0.08	−0.62
	09/17	3.000	107.8800	2.49	−	+0.10	−0.05	−0.56
Netherlands	11/99	7.500	105.3000	4.03	−0.02	+0.03	+0.08	+0.16
	02/07	5.750	106.0800	4.89	−0.01	+0.08	−0.01	−0.88
New Zealand	03/00	6.500	97.6112	7.91	−	+0.08	+0.29	+0.06
	11/06	8.000	105.9600	7.04	+0.01	−0.03	+0.13	−0.89
Norway	01/99	9.000	103.7800	4.22	−	−	−0.04	+0.12
	01/07	6.750	110.3000	5.25	−	+0.09	+0.01	−0.84
Portugal	03/99	8.500	104.1535	4.05	−0.07	+0.06	+0.05	−2.17
	02/07	6.625	111.1254	5.04	−	+0.05	−0.11	−1.91
Spain	07/98	7.400	104.0563	4.16	+0.03	+0.09	−0.04	−1.86
	03/07	7.350	116.2983	5.05	−0.02	+0.06	−0.08	−2.10
Sweden	01/99	11.000	104.7620	4.72	−0.05	+0.04	+0.03	−0.12
	08/07	8.000	119.6520	5.28	−	+0.02	−0.16	−1.98
Switzerland	03/00	5.000	106.1800	1.73	−0.01	+0.08	+0.37	−0.14
	08/07	4.500	112.8000	2.88	−0.02	+0.11	+0.09	−0.80
UK	08/99	6.000	99.1250	6.68	−0.04	+0.02	−0.10	−0.31
	11/04	6.750	103.9788	6.01	−0.07	−0.01	−0.22	−1.52
	12/07	7.250	109.9375	5.89	−0.06	+0.01	−0.21	−1.74
	06/21	8.000	127.8750	5.80	−0.04	−0.03	−0.22	−1.94
US	10/98	5.625	100.0000	5.62	−0.04	+0.08	+0.04	−0.80
	11/04	7.875	111.6170	5.74	−0.03	+0.11	+0.06	−1.01
	08/07	6.125	102.6250	5.76	−0.02	+0.12	+0.06	−1.14
	08/27	6.375	105.7030	5.96	−0.04	+0.08	+0.02	−1.14
ECU	01/00	4.000	99.8100	4.10	−0.02	+0.04	−0.09	−0.43
	04/07	5.600	103.6100	4.99	−	+0.06	−0.05	−1.34

London closing. *New York mid-day. Source: Interactive Data/FT Information. Yields: Local market standard/Annualised yield basis. Yields shown for Italy exclude withholding tax at 12.5 per cent payable by nonresidents.

10 YEAR BENCHMARK SPREADS

Mar 31	Bid Yield	Spread vs Bunds	Spread vs T-Bonds		Bid Yield	Spread vs Bunds	Spread vs T-Bonds
Australia	5.73	+0.82	+0.05	New Zealand	7.04	+2.13	+1.36
Austria	5.00	+0.09	−0.68	Norway	5.25	+0.34	−0.43
Belgium	5.01	+0.10	−0.67	Portugal	5.04	+0.13	−0.64
Canada	5.39	+0.48	−0.29	Spain	5.05	+0.14	−0.63
Denmark	5.14	+0.23	−0.54	Sweden	5.28	+0.37	−0.40
Finland	4.88	−0.03	−0.80	Switzerland	2.88	−2.03	−2.80
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

EMERGING MARKET BONDS

Mar 31	Red date	Coupon	S & P Rating	Bid price	Bid yield	Day's chge yield	Mth's chge yield	Sprd vs US
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

BOND FUTURES AND OPTIONS

France

NOTIONAL FRENCH BOND FUTURES (MATIF) FFr500,000

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	103.61	103.62	+0.02	103.66	103.35	63,707	102,042
Sep	103.18	103.18	+0.02	103.18	103.18	2	211

LONG TERM FRENCH BOND OPTIONS (MATIF)

Strike Price	Calls				Puts			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Germany

NOTIONAL GERMAN BOND FUTURES (LIFFE) DM250,000 100ths of 100%

NOTIONAL GERMAN BUND OPTIONS (LIFFE)

NOTIONAL GERMAN BOBL FUTURES (LIFFE)

Italy

NOTIONAL ITALIAN GOVT. BOND (BTP) FUTURES (LIFFE)

ITALIAN GOVT. BOND (BTP) FUTURES OPTIONS (LIFFE)

Spain

NOTIONAL SPANISH BOND FUTURES (MEFF)

UK

NOTIONAL 6 YEAR GILT FUTURES (LIFFE) £100,000 100ths of 100%

NOTIONAL UK GILT FUTURES (LIFFE)

LONG GILT FUTURES OPTIONS (LIFFE)

US

US TREASURY BOND FUTURES (CBT) $100,000 32nds of 100%

Japan

NOTIONAL LONG TERM JAPANESE GOVT. BOND FUTURES (LIFFE) Y100m 100ths of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Ecu

ECU BOND FUTURES (MATIF) ECU100,000

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	103.20	103.24	+0.04	103.24	102.90	53	4,878

US CORPORATE BONDS

Mar 30	Red date	Coupon	S & P Rating	Bid price	Bid yield	Day's chge yld	Mth's chge yld	Sprd v Govts
UTILITIES								
Pac Bell	07/02	7.25	AA−	103.8404	6.20	+0.02	+0.11	+0.48
NY Tel	08/25	7.00	A+	98.7672	7.10	+0.02	+0.03	+1.13
CWE	05/08	8.00	BBB	110.0795	6.61	+0.03	−0.10	+0.83
FINANCIALS								
GECC	05/07	8.75	AAA	116.9098	6.28	+0.03	+0.08	+0.50
Banc One	08/02	7.25	A+	103.4646	6.31	+0.01	+0.11	+0.59
US West	01/07	7.30	BBB+	104.7199	6.58	+0.04	+0.10	+0.80
INDUSTRIALS								
WMX Tech	04/99	6.25	BBB	100.0327	6.21	−0.06	−0.13	+6.21
Wal Mart	05/02	8.75	AA	102.0034	6.18	−	+0.10	+0.46
Dayton Hud	06/21	9.70	BBB+	131.5239	6.94	−0.04	−0.01	+0.97
AGENCIES								
FHLMC	04/07	7.14	N/A	107.4650	6.05	+0.04	+0.08	+0.27
SLMA	03/00	7.50	N/A	103.0486	5.81	−0.02	+0.05	+0.18
FNMA	02/18	8.95	N/A	130.2265	6.26	+0.01	+0.04	+0.29
FFCB	08/06	8.95	N/A	118.9264	5.98	+0.03	+0.03	+0.20
HIGH YIELD								
Stone Cont	02/01	9.88	B	101.8750	0.00	−	−	−
AK Stl	12/01	9.13	BB−	107.1250	0.00	−	−	−
Pacalta	06/04	10.75	B−	99.7500	0.00	−	−	−

NY closing. Standard & Poor's ratings. Yields: semi-annual basis. Source: Interactive Data/FT Information.

US INTEREST RATES

Latest		Treasury Bills and Bond Yields			
Prime rate	8½	One month	-	Two year	5.60
Broker loan rate	7¼	Two month	-	Three year	5.62
Fed.funds	6	Three month	5.15	Five year	5.65
Fed.funds at intervention	-	Six month	5.28	10-year	5.88
		One year	5.41	30-year	5.95

INTERNATIONAL BONDS

Mar 31	Red date	Coupon	S & P Rating	Bid price	Bid yld	Day's chge yld	Mth's chge yld	Spread v Govts
EURO DM								
EIB	02/07	5.750	AAA	105.6600	4.94	−0.03	−0.04	+0.12
Spain	01/07	5.750	AA	105.0800	5.01	−0.02	−0.01	+0.19
Philip Morris	03/04	5.375	A	101.5800	5.06	+0.01	−0.04	+0.49
Finland FRN	08/02	3.570	AA	100.6739	3.99	−	+0.06	−0.31
EURO FFR								
Austria	01/04	5.500	AAA	103.9500	4.70	−	+0.02	+0.10
Abbey Nat	02/04	6.000	AA	105.8900	4.82	−0.01	−	+0.22
Cred Foncier	02/04	9.125	A	120.4800	5.01	−0.03	−0.09	+0.41
3CIF FRN	12/01	3.625	AA−	99.8842	4.18	−0.01	+0.07	−0.01
EURO LIRA								
EIB	02/07	7.000	AAA	112.9500	5.14	−0.02	−0.12	+0.10
Abbey Nat	02/02	6.800	AA	106.8000	4.83	−	−0.13	+0.19
Walt Disney	06/00	8.625	A	107.7000	4.86	+0.01	−0.26	+0.45
EIB FRN	03/01	5.356	AAA	100.2274	4.39	+0.01	−0.18	−0.15
EURO £								
EIB	12/07	7.625	AAA	110.3114	6.17	−0.07	−0.20	+0.21
Dresdner Bk	12/07	7.750	AA−	107.2504	6.70	−0.07	−0.21	+0.74
British Gas	03/00	7.625	A+	101.0763	7.03	−0.07	−0.15	+0.35
Abbey Nat FRN	02/02	7.713	AA	100.0241	6.16	−0.06	−0.17	−0.15
EURO $								
EIB	04/07	7.250	AAA	106.0277	6.07	−0.03	−	+0.39
ABN Amro	06/07	7.125	AA−	104.6166	6.45	−0.02	−0.01	+0.77
Quebec	01/07	7.000	A+	103.9174	6.41	−0.03	−0.07	+0.73
Citicorp FRN	02/04	5.734	A+	99.4241	5.85	−0.03	−0.27	+0.19
EURO C$								
Bayer L−Bk	08/04	9.500	AAA	119.4494	5.75	+0.01	−0.08	+0.28
Toronto	05/04	8.500	AA+	114.3218	5.67	+0.01	−0.09	+0.18
Bell Canada	07/99	10.625	A+	106.0268	5.58	+0.02	−0.08	+1.02
Deutsche B FRN	09/02	5.875	AAA	101.3397	5.53	+0.01	+0.03	+0.13
EURO YEN								
World Bank	03/02	5.250	AAA	116.2143	1.06	−0.03	−0.08	+0.19
Spain	03/02	5.750	AA	118.0500	1.08	−0.03	−0.07	+0.21
Cred Foncier	08/02	4.750	A	113.3529	1.56	−0.03	−0.09	+0.68
Italy FRN	07/99	0.797	AA	100.3152	0.18	−0.01	−0.17	−0.06

London closing. Source: Interactive Data/FT Information. Standard & Poor's ratings. Yields: Local market standard/Annualised basis.

UK BONDS

FTSE Actuaries Govt. Securities

Price Indices UK Gilts	Tue Mar 31	Day's change %	Mon Mar 30	Accrued interest	xd adj. ytd
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

UK Indices

	— Low coupon yield —			· Medium coupon yield ·			— High coupon yield —		
	Mar 31	Mar 30	Yr. ago	Mar 31	Mar 30	Yr. ago	Mar 31	Mar 30	Yr. ago
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

FT Fixed Interest Indices

	Mar 31	Mar 30	Mar 27	Mar 26	Mar 25	Yr ago	High*	Low*
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

UK GILTS PRICES

Notes	Yield Int	Red	Price £	+or-	52 week High	Low
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Other Fixed Interest

Notes	Yield Int	Red	Price £	+or-	52 week High	Low
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

CURRENCIES & MONEY

Triple whammy continues to hurt yen

MARKETS REPORT

By Simon Kuper

The yen fell again yesterday, squeezed between the end of the Japanese fiscal year and today's start of Tokyo's Big Bang of financial deregulation. To the surprise of many traders, the Bank of Japan did nothing to boost its currency.

The yen has dropped Y4.5 against the dollar since Friday, because the market believes that from today Tokyo's desire to defend the currency will diminish. Officials had been keen to raise the Nikkei stock average to 18,190 at the fiscal year-end. That would have helped fragile Japanese banks, which put the value of their shareholdings on their balance sheets. The officials thought that to boost the stock market they had to boost the yen, because the two tend to move in tandem. For weeks the market was therefore reluctant to sell the currency.

The fiscal year ended yesterday with a 1.6 per cent rally in the Nikkei stock average to 16,527. But that was still more than 1600 points below its close at the end of last fiscal year, which means that banks' balance sheets have taken another blow. Now the government seems to have no immediate need to stimulate the stock market. Nick Parsons, currency strategist at Paribas Capital Markets in London, said: "People are asking themselves, 'Who is the buyer of the Nikkei index on April 1?" He forecast that the yen and the stock market would fall in tandem.

Many investors believe the Big Bang will also weaken the yen, by enabling Japanese investors to place more money abroad. Completing the triple whammy for the stricken currency, most forecasters said the Bank of Japan's quarterly *tankan* survey of industry on Thursday would show a disastrous reading.

The yen dropped Y1.3 against the dollar yesterday to close in London at Y133.4. Its next support level is at Y134.40, both its low for 1998 and its lowest point since the dollar began recovering in early 1995.

The dollar and pound also continued to rise against the D-Mark, with not a word of protest from the Bundesbank. The pound jumped to DM3.11, its record high against the D-Mark since July 1989. It dropped back later, but still closed 0.3 pfennigs higher on the day at DM3.097. Mr Parsons noted that UK companies had been among the main buyers of the pound in recent trading sessions. Having watched the strong currency eat into their export earnings for 20 months, many were finally hedging against a further rise in sterling, spurred on by market talk that the pound could reach DM3.20 soon.

The dollar gained 0.4 pfennigs against the D-Mark to DM1.849, and rose from SFr1.518 to SFr1.525 against the Swiss franc.

Late yesterday, the Federal Reserve's open market committee was still meeting to set the level of US interest rates.

The Norwegian krone dropped back with the oil price. The Czech National Bank bought hundreds of millions of D-Marks to halt the rise in its koruna.

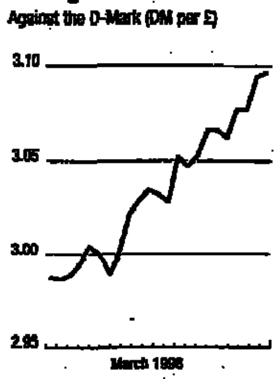
■ "Sterling is amazing," says Carl Weinberg, chief economist at High Frequency Economics in New York. He is not the first to voice the thought, but he is bold in forecasting that the currency will decline as early as next week. The money market is pricing in one more UK rate rise at most, with the increase to occur in the next three months.

Next Thursday, the Bank of England ends its two-day monetary policy committee meeting. If it raises interest rates then, says Mr Weinberg, many investors will assume that UK rates have peaked and will take their profits on the pound. If the Bank does not raise, then investors will assume that the chances of a rate rise have shrunk, and they will also sell the pound. "I think sterling may be very near its peak," says Mr Weinberg.

Gordon Brown, the UK chancellor, seems to have no better idea than anyone else whether that is true. Asked by the Treasury select committee yesterday about the pound's strength, Mr Brown merely said the Bank of England was independent and had to meet the government's inflation target.

Sterling

Against the D-Mark (DM per £)



Source: Datastream/ICV

■ **POUND IN NEW YORK**

Mar 31	—Latest—	— Prev. close —
£ spot	1.6770	1.6780
1 mth	1.6743	1.6755
3 mth	1.6694	1.6705
1 yr	1.6514	1.6520

■ **OTHER CURRENCIES**

Mar 31	£	$
Czech Rp	57.2592 - 57.3564	34.2030 - 34.2420
Hungary	357.052 - 357.328	213.280 - 213.330
Iran	5025.00 - 5022.30	3000.00 - 3000.00
Kuwait	0.5119 - 0.5124	0.3058 - 0.3059
Peru	4.6992 - 4.7068	2.8070 - 2.8100
Poland	5.7782 - 5.7863	3.4515 - 3.4545
Russia	10.2078 - 10.2150	6.0975 - 6.0985
U.A.E.	6.1488 - 6.1523	3.6729 - 3.6730

POUND SPOT FORWARD AGAINST THE POUND

Mar 31		Closing mid-point	Change on day	Bid/offer spread	Day's mid high	Day's mid low	One month Rate	One month %PA	Three months Rate	Three months %PA	One year Rate	One year %PA	Bank of Eng. Index
Europe													
Austria	(Sch)	21.7878	+0.0159	784 - 971	21.8805	21.7620	21.7126	4.1	21.5785	3.8	21.0353	3.5	102.3
Belgium	(BFr)	63.8841	+0.0422	334 - 348	64.1380	63.6380	63.6741	3.9	63.2837	3.8	61.7036	3.4	101.2
Denmark	(DKr)	11.8053	+0.009	004 - 101	11.8517	11.7902	11.7896	3.6	11.7004	3.6	11.4343	3.1	103.4
Finland	(FM)	9.3987	+0.0084	899 - 075	9.4340	9.3889	9.3657	4.2	9.308	3.9	9.077	3.4	79.7
France	(FFr)	10.3753	+0.0058	714 - 791	10.4187	10.3662	10.3396	4.1	10.2754	3.9	10.018	3.4	104.6
Germany	(DM)	3.0968	+0.0028	956 - 981	3.1100	3.0929	3.0864	4.1	3.0671	3.8	2.9901	3.4	102.4
Greece	(Dr)	535.488	+1.555	925 - 050	539.321	532.649	537.193	-3.8	539.695	-3.1	551.141	-2.9	59.2
[illegible]													

DOLLAR SPOT FORWARD AGAINST THE DOLLAR

Mar 31		Closing mid-point	Change on day	Bid/offer spread	Day's mid high	Day's mid low	One month Rate	One month %PA	Three months Rate	Three months %PA	One year Rate	One year %PA	J.P. Morgan Index
Europe													
Austria	(Sch)	13.0111	+0.0339	090 - 132	13.0420	12.9760	12.9866	2.3	12.943	2.1	12.7607	1.9	102.0
Belgium	(BFr)	38.1500	+0.09	300 - 700	38.2300	37.9500	38.0835	2.1	37.962	2.0	37.4425	1.9	101.4
Denmark	(DKr)	7.0498	+0.0173	488 - 508	7.0658	7.0300	7.0385	1.9	7.0185	1.8	6.9372	1.6	102.8
Finland	(FM)	5.6127	+0.0146	089 - 164	5.6255	5.5981	5.6021	2.3	5.5834	2.1	5.5047	1.9	79.2
France	(FFr)	6.1959	+0.014	952 - 965	6.2107	6.1750	6.1843	2.2	6.164	2.1	6.0774	1.9	104.1
Germany	(DM)	1.8494	+0.0048	491 - 496	1.8540	1.8443	1.846	2.2	1.8398	2.1	1.8139	1.9	102.0
Greece	(Dr)	319.780	+1.47	530 - 030	321.500	317.920	321.455	-6.3	324.03	-5.3	334.98	-4.8	59.2
[illegible]													

CROSS RATES AND DERIVATIVES

EXCHANGE CROSS RATES

Mar 31		BFr	DKr	FFr	DM	IE	L	Fl	NKr	Es	Pta	SKr	SFr	£	C$	$	Y	Ecu
[illegible]																		
Ecu	-	41.02	7.581	6.662	1.989	0.791	1960	2.242	8.198	203.7	168.8	8.596	1.639	0.642	1.529	1.075	143.4	1

Danish Kroner, French Franc, Norwegian Kroner, and Swedish Kronor per 10. Belgian Franc, Yen, Escudo, Lira and Peseta per 100.

■ **D-MARK FUTURES (IMM) DM 125,000 per DM**

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	0.5437	0.5436	-	0.5446	0.5415	47,887	91,155
Sep	0.5471	0.5470	+0.0007	0.5471	0.5458	533	2,376
Dec	-	0.5490	+0.0001	0.5490	-	2	23

■ **JAPANESE YEN FUTURES (IMM) Yen 12.5m per Yen 100**

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	0.7660	0.7579	-0.0075	0.7688	0.7560	36,823	95,202
Sep	0.7684	0.7689	-0.0064	0.7700	0.7678	74	1,439
Dec	0.7800	0.7800	-0.0053	0.7800	0.7779	1	153

■ **SWISS FRANC FUTURES (IMM) SFr 125,000 per SFr**

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	0.6625	0.6619	-0.0003	0.6642	0.6603	24,315	69,606
Sep	0.6693	0.6693	+0.0003	0.6719	0.6693	82	1,273
Dec	-	0.6755	-0.0001	-	-	1	14

■ **STERLING FUTURES (IMM) $62,500 per £**

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	1.6716	1.6694	-0.0024	1.6778	1.6654	5,321	44,114
Sep	1.6634	1.6630	-0.0018	1.6710	1.6610	73	672
Dec	-	1.6550	-0.0032	1.6540	1.6540	2	35

UK INTEREST RATES

LONDON MONEY RATES

Mar 31	Over-night	7 days notice	One month	Three months	Six months	One year
Interbank Sterling	7¼ - 6¾	7⅛ - 7⅛	7⅛ - 7¼	7¼ - 7⅛	7¼ - 7¼	7¼ - 7½
Sterling CDs	-	-	7¼ - 7⅛	7⅛ - 7⅛	7⅛ - 7⅛	7⅛ - 7⅛
Treasury Bills	-	-	7¼ - 7⅛	7⅛ - 7⅛	-	-
Bank Bills	-	-	7⅛ - 7⅛	7⅛ - 7¼	7⅛ - 7⅛	-
Local authority deps.	7⅛ - 7	7¼ - 7	7⅛ - 7⅛	7⅛ - 7⅛	7⅛ - 7⅛	7¼ - 7⅛
Discount Market deps	7¼ - 7	7⅛ - 7⅛	-	-	-	-

UK clearing bank base lending rate 7¼ per cent from Nov 6, 1997

	Up to 1 month	1-3 month	3-6 months	6-9 months	9-12 months
Certs of Tax dep. (£100,000)	2¼	5½	5	5	4¼

Certs of Tax dep. under £100,000 is 2¼pc. Deposits withdrawn for cash 1½pc. Ave. tender rate of discount on Mar 20, 6.9178pc. ECGD fixed rate Stlg. Export Finance. Make up day Mar 31, 1998. Agreed rate for period Apr 26, 1998 to May 25, 1998, Scheme III 8.79pc. Reference rate for period Feb 28, 1998 to Mar 31, 1998, Schemes IV & V 7.354pc. Finance House Base Rate 8pc from Apr 1, 1998.

EMS EUROPEAN CURRENCY UNIT RATES

Mar 31	Ecu cen. rates	Rate against Ecu	Change on day	% +/- from cen. rate	% spread v weakest	Div. ind.
Greece	357.000	343.947	+0.795	-3.66	4.31	24
Ireland	0.796244	0.790030	+0.000534	-0.78	1.29	5
Italy	1957.61	1958.04	+1.25	0.02	0.48	-0
Spain	168.220	168.616	+0.19	0.24	0.26	-2
Finland	6.01125	6.02875	+0.00605	0.29	0.21	-2
France	6.63186	6.65552	+0.0051	0.36	0.14	-3
Denmark	7.54257	7.57091	+0.00599	0.38	0.12	-3
Portugal	202.692	203.473	+0.23	0.39	0.11	-3
Germany	1.97738	1.98641	+0.00172	0.46	0.04	-4
Austria	13.9119	13.9753	+0.0225	0.46	0.04	-3
Belgium	40.7844	40.9755	+0.0356	0.47	0.03	-3
Netherlands	2.22799	2.23910	+0.00205	0.50	0.00	-4
NON ERM MEMBERS						
UK	0.653644	0.639213	-0.003415	-2.21	2.77	-

Ecu central rates set by the European Commission. Currencies are in descending relative strength. Percentage changes are for Ecu; a positive change denotes a weak currency. Divergence shows the ratio between two spreads: the percentage difference between the actual market and Ecu central rates for a currency, and the maximum permitted percentage deviation of the currency's market rate from its Ecu central rate. 17/9/92: Sterling suspended from ERM. 16/3/98: Drachma joined ERM & Punt revalued by 3%. Other central rates adjusted. Adjustment calculated by the Financial Times.

■ **THREE MONTH STERLING FUTURES (LIFFE) £500,000 points of 100%**

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	92.49	92.51	+0.03	92.52	92.49	24427	199637
Sep	92.61	92.62	+0.04	92.64	92.60	18020	108470
Dec	92.73	92.76	+0.05	92.78	92.73	24718	141926
Mar	92.90	92.94	+0.06	92.96	92.90	11257	80096
Jun	93.08	93.11	+0.06	93.12	93.07	5735	84536

Also traded on APT. All Open interest figs. are for previous day.

■ **SHORT STERLING OPTIONS (LIFFE) £500,000 points of 100%**

Strike Price	Calls Jun	Calls Sep	Calls Dec	Puts Jun	Puts Sep	Puts Dec
9250	0.09	0.24	0.39	0.08	0.72	0.13
9275	0.02	0.10	0.24	0.26	0.23	0.23
9300	0	0.04	0.13	0.49	0.42	0.37

Est. vol. total, Calls 6850 Puts 3350. Previous day's open int., Calls 261916 Puts 215300

■ **PHILADELPHIA SE £/$ OPTIONS £31,250 (cents per pound)**

Strike Price	Calls Apr	Calls May	Calls Jun	Puts Apr	Puts May	Puts Jun
1.670	1.20	2.07	2.53	0.50	1.64	2.36
1.680	0.68	2.11	2.33	0.96	2.17	2.85
1.690	0.32	1.70	1.90	1.62	2.72	3.45

Previous day's vol., Calls 175 Puts 1,027. Prev. day's open int., Calls 13,774 Puts 15,734

■ **PHILADELPHIA SE D-MARK/$ OPTIONS DM62,500 ($ per DM)**

Strike Price	Calls Apr	Calls May	Calls Jun	Puts Apr	Puts May	Puts Jun
0.540	0.41	0.80	1.04	0.22	0.51	0.74
0.545	0.17	0.54	0.78	0.48	0.78	1.02
0.550	0.06	0.36	0.58	0.87	1.08	1.29

Previous day's vol., Calls 631 Puts 733. Prev. day's open int., Calls 5,781 Puts 17,780

■ **THREE MONTH EURODOLLAR (IMM) $1m points of 100%**

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	94.29	94.29	+0.01	94.29	94.28	59,605	480,999
Sep	94.22	94.24	+0.02	94.25	94.21	68,144	402,496
Dec	94.10	94.14	+0.05	94.14	94.09	56,024	316,109

■ **US TREASURY BILL FUTURES (IMM) $1m per 100%**

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	95.05	95.08	+0.02	95.08	95.05	327	4,658
Sep	-	95.03	-	-	-	3	504
Dec	-	95.04	-	-	-	2	4

All Open interest figs. are for previous day

■ **EUROMARK OPTIONS (LIFFE) DM1m points of 100%**

Strike Price	Calls Apr	Calls May	Calls Jun	Calls Sep	Puts Apr	Puts May	Puts Jun	Puts Sep
9625	0.085	0.090	0.100	0.070	0.025	0.050	0.060	0.190
9650	0.005	0.010	0.010	0.010	0.215	0.220	0.220	0.380
9675	0	0	0	0	0.450	0.480	0.460	0.620
9700	0	0	0	0	0.710	0.710	0.710	0.870

Est. vol. total, Calls 20095 Puts 20095. Previous day's open int., Calls 394176 Puts 258893

■ **EURO SWISS FRANC OPTIONS (LIFFE) SFr 1m points of 100%**

Strike Price	Calls Jun	Calls Sep	Calls Dec	Puts Jun	Puts Sep	Puts Dec
9850	0.08	0.09	0.09	0.18	0.35	0.56
9875	0.04	0.04	0.04	0.39	0.55	0.76

Est. vol. total, Calls 5000 Puts 580. Previous day's open int., Calls 17430 Puts 7250

BASE LENDING RATES

	%		%		%
Adam & Company	7.25	Exeter Trust Limited	8.25	●Singer & Friedlander	7.25
Allied Irish Bank (GB)	7.25	Financial & Gen Bank	8.00	●Smith & Williamson	7.25
●Henry Ansbacher	7.25	●Robert Fleming & Co	7.25	Sun Banking Corp Ltd	7.25
Banco Bilbao Vizcaya	7.25	●Guinness Mahon	7.25	TSB	7.25
Bank of Cyprus	7.25	Habib Bank AG Zurich	7.25	United Bank of Kuwait	7.25
Bank of Ireland	7.25	●Hambros Bank	7.25	Unity Trust Bank Plc	7.25
Bank of India	7.25	Heritable & Gen Inv Bk	7.25	Whiteaway Laidlaw	7.25
Bank of Scotland	7.25	C. Hoare & Co	7.25	Yorkshire Bank	7.25
Barclays Bank	7.25	Hongkong & Shanghai	7.25		
Brit Bk of Mid East	7.25	Investec Bank (UK) Ltd	7.25		
●Brown Shipley & Co Ltd	7.25	Julian Hodge Bank	7.25		
Citibank NA	7.25	●Leopold Joseph & Sons	7.25		
Clydesdale Bank	7.25	Lloyds Bank	7.25		
The Co-operative Bank	7.25	Midland Bank	7.25		
Coutts & Co	7.25	NatWestminster	7.25		
Cyprus Popular Bank	7.25	●Rea Brothers	7.25		
Duncan Lawrie	7.25	Royal Bk of Scotland	7.25		
		Scottish Widows Bank	7.25		

● Members of London Investment Banking Association
* In administration

WORLD INTEREST RATES

MONEY RATES

Mar 31	Over night	One month	Three mths	Six mths	One year	Lomb. inter.	Dis. rate	Repo rate
Belgium	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6.00	2.75	-
France	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.80	-	3.30
Germany	[illegible]	[illegible]	3½	[illegible]	[illegible]	4.50	2.50	3.30
Ireland	[illegible]	[illegible]	5¾	5½	[illegible]	-	-	6.75
Italy	[illegible]	[illegible]	5¼	[illegible]	[illegible]	7.00	5.50	5.63
Netherlands	3¼	[illegible]	[illegible]	3½	3¾	-	2.75	3.30
Switzerland	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	1.00	-
US	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	5.00	-
Japan	[illegible]	[illegible]	[illegible]	¾	¾	-	0.50	-
■ $ LIBOR BBA London								
Interbank Fixing	-	[illegible]	[illegible]	5¾	5⅞	-	-	-
US Dollar CDs	-	5.53	5.53	5.58	5.67	-	-	-
ECU Linked Ds	-	[illegible]	[illegible]	[illegible]	4¼	-	-	-
SDR Linked Ds	-	3¾	3¾	[illegible]	[illegible]	-	-	-

The FT has replaced the Libor FT London Interbank fixing rate with the BBA London rate. Any comments should be sent to Martin Dickson, Financial Editor, at the FT.
Mid rates are shown for the domestic Money Rates, US$ CDs, ECU & SDR Linked Deposits (Ds)

EURO CURRENCY INTEREST RATES

Mar 31	Short term	7 days notice	One month	Three months	Six months	One year
Belgian Franc	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Danish Krone	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
German Mark	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Dutch Guilder	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
French Franc	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Portuguese Esc.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Spanish Peseta	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sterling	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Swiss Franc	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Canadian Dollar	5 - 4¾	[illegible]	[illegible]	[illegible]	5 - 4⅞	[illegible]
US Dollar	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Italian Lira	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Japanese Yen	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Asian $Sing	3 - 2¾	4 - 3¾	[illegible]	[illegible]	[illegible]	7 - 6

Short term rates are call for the US Dollar and Yen, others: two days' notice.

■ **THREE MONTH PIBOR FUTURES (MATIF) Paris Interbank offered rate**

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	96.28	96.25	-0.03	96.28	96.22	24,723	70,884
Sep	96.13	96.10	-0.04	96.13	96.05	387	39,369

■ **THREE MONTH EUROMARK FUTURES (LIFFE)* DM1m points of 100%**

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	96.310	96.290	-0.020	96.310	96.265	94529	420673
Sep	96.130	96.130	-0.015	96.145	96.090	85056	351195
Dec	95.920	95.925	-0.015	95.935	95.880	80250	362114
Mar	95.810	95.795	-0.020	95.815	95.750	50166	335628

■ **ONE MONTH EUROMARK FUTURES (LIFFE)* DM3m points of 100%**

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Apr		96.43	-0.04			0	500
May		96.39	-0.04			0	1

■ **THREE MONTH EUROLIRA FUTURES (LIFFE)* L1000m points of 100%**

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	95.38	95.35	-0.03	95.38	95.30	51130	229618
Sep	95.79	95.77	-0.02	95.79	95.72	22058	240666
Dec	95.86	95.86	-0.01	95.87	95.81	14185	198709
Mar	95.77	95.77	-0.01	95.78	95.72	8261	171733

■ **THREE MONTH EURO SWISS FRANC FUTURES (LIFFE) SFr1m points of 100%**

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	98.35	98.40	+0.01	98.41	98.34	12504	56506
Sep	98.18	98.24	-	98.25	98.18	7391	28550
Dec	97.98	98.03	-0.01	98.04	97.98	5183	23599
Mar	97.92	97.92	-0.02	97.92	97.87	1420	8057

■ **THREE MONTH EUROYEN FUTURES (LIFFE) Y100m points of 100%**

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	99.31	99.31	-0.01	99.31	99.31	50	na
Sep		99.30	-0.01			0	na
Dec		99.24	-0.01			0	na

■ **THREE MONTH ECU FUTURES (LIFFE) Ecu1m points of 100%**

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	95.81	95.81	-	95.82	95.77	900	13706
Sep	95.84	95.84	-	95.85	95.81	1086	15146
Dec	95.90	95.90	-	95.90	95.85	490	6685
Mar	95.80	95.79	-0.01	95.80	95.76	263	5321

* LIFFE futures also traded on APT

■ **EUROLIRA OPTIONS (LIFFE) L1000m points of 100%**

Strike Price	Calls Jun	Calls Sep	Calls Dec	Puts Jun	Puts Sep	Puts Dec
9525	0.22	0.59	0.67	0.09	0.05	0.05
9550	0.09	0.37	0.45	0.21	0.08	0.08
9575	0.03	0.19	0.26	0.40	0.15	0.14

Est. vol. total, Calls n/a Puts n/a. Previous day's open int., Calls n/a Puts n/a

COMMODITIES & AGRICULTURE

Oil traders give thumbs-down to Opec deal

MARKETS REPORT

By Gary Mead and Kenneth Gooding

The market gave an initial thumbs-down to the crude oil output cut agreed yesterday by members of the Organisation of Petroleum Exporting Countries and other oil producers.

May-dated Brent crude on the International Petroleum Exchange had slipped to a low of $14.28 by midday in London, down 56 cents from Monday's close, although it recovered to $14.44 in later trading.

Analysts said the sceptical response to the Vienna pact was underpinned not so much by doubts over the will of oil producers to cut output by a planned 1.5m b/d (equivalent to 2 per cent of total global production), as a belief that the proposed cut would be insufficient to rebalance the global crude oil market.

"We don't really know if it will be enough, nor how quickly the producers will respond if it proves not to be enough," said one specialist. Oil prices collapsed by 40 per cent between last October and mid-March.

The international oil markets will remain in significant over-supply for the next six months, according to several analysts. Some are forecasting that world oil stocks will continue building this quarter at an above-average rate of 2m b/d, which would further depress prices.

However, Ali al-Naimi, Saudi Arabia's oil minister, who attended the Vienna meeting, said the market "should judge the Opec decision in two months."

Venezuela, another important participant in the agreement, also sounded an optimistic note. Erwin Arrieta, energy minister, said the country would cut production further if that proved necessary to stabilise prices.

Coffee futures again flourished on the London International Financial Futures Exchange, the May contract closing $21 higher at $1,841 a tonne, boosted by strong buying from investment funds.

There was also strong interest in cocoa, with the May contract finishing £18 higher at £1,070 a tonne, in a day of relatively heavy volume, with 13,703 lots.

Traders said the buying was again led by industrial users rather than investment funds, and there were no fundamental developments to propel the market higher.

On the London Metal Exchange tin rose by 1.3 per cent, or $75 a tonne, to close at $5,635 after another fall in LME stocks sent investment funds scrambling to cover short positions.

Nick Moore, analyst at Flemings Global Mining Group, pointed out that LME tin stocks were at their lowest since November 1989. Tin's price then, during "the last bull market for tin", was $7,163. It peaked at $10,733 a tonne the following April, by which time LME stocks were virtually gone.

Since the begining of this year the exchange's tin stocks have fallen by more than 40 per cent and buyers are having to pay a premium for immediate delivery. Yesterday the premium was $27 a tonne compared with tin for delivery in three months.

USDA forecasts switch to soyabeans

By Gary Mead

US grains traders responded positively to the 1998 planting forecasts published by the US Department of Agriculture yesterday, viewing them as neutral to bullish for futures prices.

Spring wheat sowings are expected to be the lowest for a decade and, at 16.3m acres, 16 per cent down from 1997. The low plantings reflect farmers' moves towards more profitable crops. The seeded area for winter wheat this year is 46.4m acres, 4 per cent less than in 1997.

Corn (maize) plantings of all types will increase by 1 per cent, to 80.8m acres; this would be the largest planted acreage since 1985. However, expected acreage is down in most corn belt states, as farmers plan to switch to soyabeans.

On the Chicago Board of Trade the May contract for corn opened down 4¾ cents, at $2.63 a bushel, on news of bigger than expected US corn stocks, which are now 10 per cent higher than a year ago at 4.937bn bushels, while wheat stocks are up a massive 42 per cent, at 1.166bn bushels, outstripping analysts' forecasts.

Soyabean stocks are also higher than a year ago, up 14 per cent at 1.203bn bushels. Soyabean farmers intend to plant 2 per cent more this year, a record of 72m acres.

Soyabean plantings have jumped since passage of the 1996 Farm Bill, which substantially reduced the federal government's influence over plantings.

Plantings of durum wheat are likely to be the biggest since 1982: the 4.08m acres will mark a 25 per cent increase over 1997.

Cotton sowing will be down for the third successive year, to 13.2m acres. This is 4 per cent lower than last year and 10 per cent below 1996.

Zimbabwe tobacco down 42%

By Tony Hawkins in Harare

Tobacco farmers were shocked when Zimbabwe's auction opened yesterday, with prices down 42 per cent on last year.

While the industry had anticipated lower prices than in 1997, when sales on the first day averaged 208 US cents a kg, there was widespread tearing of tickets (rejection of sales) by growers when prices on one of the three floors averaged only 123.6 cents and on another 116.3 cents.

Prices on the first day are seldom a reliable guide to seasonal trends, but so drastic a decline points to price levels well below those anticipated in the industry of close to 200 cents.

The norm is for prices to firm gradually as the sales gain momentum and as better quality leaf comes to the floors, peaking in August or September.

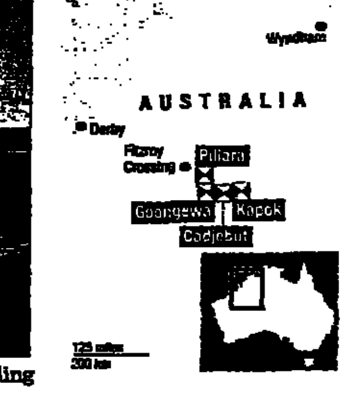
Last year, the average for the season of 235 cents a kg was 13 per cent above the price for the first day. In 1996, prices opened at more than 240 cents, firming to an average 285 cents for the season.

If these patterns are repeated, prices will average less than 150 cents, down more than a third on 1997.

Lennard Shelf miners know how to take the heat

Extracting lead and zinc in Kimberley is not for the faint-hearted, says **Kenneth Gooding**

Installing equipment at the the stand-alone Pillara mine — Picture: Kenneth Gooding



Smoke can be seen from two bush fires from the entrance to the underground mine in the blistering sunshine of the Western Australian desert. One blaze threatens the mine's camp, recently completed at a cost of A$5m (US$3.3bn).

This is one of the remotest areas in Australia, the southern Kimberley region, about 500km east of the coastal town of Broome. There is no question of calling a fire brigade for help.

Richard Jordinson, general manager of this complex of four lead-zinc mines called the Lennard Shelf Operations, and responsible for the 260 employees, decides to take a closer look.

Near the camp the flames are fierce and about three metres high, fanned by a slight wind and moving forward rapidly.

Mr Jordinson explains that a fire in the wet season is unusual, but the grass is tall and highly combustible because of the natural oils it contains.

The air is filled with thousands of crickets, jumping and flying to safety. Above the flames several kites are manoeuvring, hoping to spot a tasty snack running from the fire. We keep a watchful eye for snakes – some of the world's deadliest are found in this region – and for bungarras, big lizards that head for the nearest high point when in danger and have been known to claw their way up a startled person.

A grader has been commandeered to use its scoop to scrape away grass and bush to create a fire break around the camp fence. Some flames jump this gap and are now within 30 metres of the camp.

Mr Jordinson inspects the camp's other defences. The road on which we have been driving provides some protection. The grader is still at work, this time making the fire breaks near the camp buildings twice as wide.

There is another streak of lightening in the distance, similar to those that started the bush fires. But the flames have begun to subside. They have consumed the grass and shrub over a huge area and there is nothing else for them to feed on.

Mr Jordinson has maintained his equanimity throughout this episode. We drive to his office 20 minutes away, near Kapoc, another underground mine on the Leonard Shelf complex.

The fire has not been his only frustration today. To start with it is Monday. He returned after a weekend at his home in Broome for another five days at the mining complex, working at least a 6am to 6pm shift each day.

He will not see his wife and four sons again until late Friday.

This Monday has been hot, 41 degrees, with 96 per cent humidity. This is not unusual. Exploration stops between November and April because of the heat and the wet.

Mr Jordinson arrived to find the power plant out of action. Also, a rock has stuck at the Kapoc underground mine, temporarily halting ore processing.

"You can't run this place from Melbourne or Perth," he says. "The only way you are going to make money on these deposits is by managing them here on a day-by-day, hour-by-hour basis. They have to be managed very carefully; handled with great care."

Mr Jordinson is implying that most big mining companies would find it virtually impossible to operate the Lennard Shelf complex.

Zinc and lead mining in the area started in the late 1980s at the old Cadjebut underground mine. This had so much metal in the ore that it would have been difficult to mine at a loss.

Cadjebut was owned by Broken Hill Proprietary, Australia's biggest resources group, and Shell Australia. They were ready to wind down operations in 1994, when Cadjebut had about 18 months life left.

However, two BHP executives, Rod Webster and Alan Castleman, convinced there was more ore to be discovered in the area, persuaded them to sell. Castleman and Webster raised A$35m to buy the Lennard Shelf Operations for their company, Western Metals.

In the past three and a half years, Western has built two new mines, Goongewa and Kapok, to provide feed for the Cadjebut treatment plant; is developing the stand-alone Pillara mine, which will start up in July; and has built a new export facility at the port of Derby. The company raised A$75m through a rights issue in January, is debt-free and been paying modest dividends.

When Pillara is fully operational, Western Metals' zinc output will rise from 66,000 tonnes to 168,000 tonnes, making it the world's seventh largest zinc producer.

Mr Jordinson insists it won't be easy to crank up production. "Cadjebut was very high-grade and the ore was close to the surface. Kapok is deep and hot and Pillara is big, but much lower grade."

But he has no doubt it will be done, as long as there are people like himself, ready to put up with the sometimes harsh conditions so that problems – such as unexpected bush fires – can be dealt with just as quickly as they arise.

COMMODITIES PRICES

BASE METALS

LONDON METAL EXCHANGE

(Prices from Amalgamated Metal Trading)

■ ALUMINIUM, 99.7 PURITY ($ per tonne)

	Cash	3 mths
Close	1427-28	1453-53.5
Previous	1431-32	1456-57
High/low		1455/1443
AM Official	1422.5-23.0	1449-50
Kerb close		1447-48
Open int.	251,515	
Total daily turnover	47,842	

■ ALUMINIUM ALLOY ($ per tonne)

	Cash	3 mths
Close	1273-78	1300-305
Previous	1280-85	1307-12
High/low		1305/1295
AM Official	1271-72	1300-01
Kerb close		1298-302
Open int.	5,411	
Total daily turnover	1,112	

■ LEAD ($ per tonne)

	Cash	3 mths
Close	573-74	574-75
Previous	581-2	579-9.5
High/low		583/568
AM Official	576-77	576.5-77.0
Kerb close		570-71
Open int.	36,228	
Total daily turnover	12,474	

■ NICKEL ($ per tonne)

	Cash	3 mths
Close	5500-10	5590-600
Previous	5510-20	5605-10
High/low		5690/5560
AM Official	5530-35	5635-40
Kerb close		5580-85
Open int.	52,965	
Total daily turnover	15,474	

■ TIN ($ per tonne)

	Cash	3 mths
Close	5650-60	5630-35
Previous	5570-80	5560-70
High/low		5635/5540
AM Official	5625-30	5605-10
Kerb close		5635-40
Open int.	16,757	
Total daily turnover	7,565	

■ ZINC, special high grade ($ per tonne)

	Cash	3 mths
Close	1079.5-80.5	1102-02.5
Previous	1102.5-03.5	1126-27
High/low		1123/1092
AM Official	1092-93	1115-16
Kerb close		1100-101
Open int.	79,985	
Total daily turnover	25,205	

■ COPPER, grade A ($ per tonne)

	Cash	3 mths
Close	1751.5-52.5	1778-79
Previous	1742-43	1769-70
High/low		1781/1758
AM Official	1744.5-45.0	1771-71.5
Kerb close		1772-73
Open int.	163,055	
Total daily turnover	58,895	

■ LME AM Official £/$ rate: 1.6830
LME Closing £/$ rate: 1.6760

Spot: 1.6770 3 mths: 1.6697 6 mths: 1.6638 9 mths: 1.6575

■ HIGH GRADE COPPER (COMEX)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	79.70	+0.60	80.05	79.30	413	4,106
May	80.10	+0.50	80.90	79.85	2,861	25,453
Jun	80.35	+0.50	80.70	80.35	144	2,374
Jul	80.70	+0.49	81.30	80.20	258	11,529
Aug	81.20	+0.65	81.20	81.20	1	1,561
Sep	81.40	+0.55	81.85	81.40	-	5,020
Total					3,784	68,469

PRECIOUS METALS

■ LONDON BULLION MARKET

(Prices supplied by N M Rothschild)

Gold(Troy oz)	$ price	£ equiv	SFr equiv
Close	301.10-301.60		
Opening	300.20-300.60		
Morning fix	299.90	178.799	456.368
Afternoon fix	301.00	179.241	457.731
Day's High	301.35-301.65		
Day's Low	299.40-299.70		
Previous close	302.50-303.00		

Loco Ldn Mean Gold Lending Rates (Vs US$)

1 month ....4.11 6 months 3.90
2 months ....4.06 12 months 3.74
3 months 3.99

Silver Fix	p/troy oz.	US cts equiv.
Spot	377.65	634.50
3 months	376.45	629.70
6 months	377.00	628.05
1 year	375.60	621.50

Gold Coins	$ price	£ equiv.
Krugerrand	300-303	179-181
Maple Leaf	-	-
New Sovereign	70-74	42-44

Precious Metals continued

■ GOLD COMEX (100 Troy oz.; $/troy oz.)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	301.1	-1.5	301.5	298.5	10,547	5,046
Jun	304.1	-1.9	304.2	301.7	25,868	76,897
Aug	306.3	-1.7	306.3	304.5	252	7,502
Oct	307.9	-2.1	307.9	307.5	139	4,404
Dec	310.5	-1.3	310.5	308.7	-	16,106
Feb	-	-	-	-	-	8,024
Total					37,381	180,904

■ PLATINUM NYMEX (50 Troy oz.; $/troy oz.)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	408.5	+1.1	410.5	403.5	1,552	2,695
Jul	405.0	+1.6	406.0	398.0	1,441	10,135
Oct	405.5	+5.1	-	-	180	439
Jan	407.0	+7.1	-	-	-	51
Total					3,174	13,319

■ PALLADIUM NYMEX (100 Troy oz.; $/troy oz.)

	Latest price	Day's change	High	Low	Vol	Open int
Jun	260.25	+6.50	263.50	254.00	597	4,670
Sep	257.00	+8.75	257.00	252.50	12	746
Total					609	5,417

■ SILVER COMEX (5,000 Troy oz.; Cents/troy oz.)

	Latest price	Day's change	High	Low	Vol	Open int
May	634.5	+5.0	635.5	623.0	7,858	44,514
Jul	636.0	+7.0	638.0	624.0	200	15,916
Sep	628.0	+0.05	628.0	628.0	13	5,215
Dec	634.0	+6.0	634.0	622.0	60	10,881
Jan	625.5	-	-	-	-	15
Mar	629.5	-	629.5	629.5	-	2,338
Total					8,211	88,103

ENERGY

■ CRUDE OIL NYMEX (1,000 barrels, $/barrel)

	Latest price	Day's change	High	Low	Vol	Open int
May	15.81	-0.40	16.26	15.57	44,039	107k
Jun	16.11	-0.36	16.52	15.88	17,152	78,009
Jul	16.30	-0.41	16.74	16.22	5,169	41,477
Aug	16.59	-0.33	16.90	16.50	1,860	24,045
Sep	16.75	-0.30	16.88	16.75	1,911	22,956
Oct	16.89	-0.28	16.95	16.89	348	15,936
Total					77,899	457,779

■ CRUDE OIL IPE ($/barrel)

	Latest price	Day's change	High	Low	Vol	Open int
May	14.42	-0.35	14.47	14.14	20,975	64,959
Jun	14.70	-0.32	14.78	14.45	10,197	52,404
Jul	14.98	-0.32	15.01	14.75	2,412	18,834
Aug	15.18	-0.35	15.21	14.97	1,421	12,971
Sep	15.45	-	15.45	15.24	809	11,733
Oct	15.62	-0.26	15.65	15.47	792	9,217
Total					n/a	n/a

■ HEATING OIL NYMEX (42,000 US galls.; c/US galls.)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	43.65	-0.53	44.25	42.75	16,329	17,638
May	44.10	-0.64	44.80	43.30	19,095	42,360
Jun	44.70	-0.64	45.25	44.00	2,919	22,329
Jul	45.65	-0.49	46.02	44.85	690	17,348
Aug	46.40	-0.64	46.70	45.85	428	12,677
Sep	47.45	-0.59	47.50	46.85	88	11,093
Total					42,606	188,380

■ GAS OIL IPE ($/tonne)

	Sett price	Day's change	High	Low	Vol	Open int
Apr	132.75	-5.00	135.00	130.50	8,978	25,486
May	135.25	-4.00	136.75	133.00	8,909	20,462
Jun	137.50	-3.75	138.00	135.50	1,827	18,798
Jul	140.50	-3.75	140.50	138.50	881	9,670
Aug	143.25	-3.50	143.50	141.75	509	8,639
Sep	146.00	-	145.75	144.75	165	8,547
Total					24,000	142,784

■ NATURAL GAS IPE (1,000 therms; pence per therm)

	Latest price	Day's change	High	Low	Vol	Open int
May	8.580	-0.080	8.580	8.580	35	1,985
Jun	8.510	-0.110	8.550	8.510	50	1,915
Total					1,346	16,646

■ NATURAL GAS NYMEX (10,000 mmBtu.; $/mmBtu.)

	Latest price	Day's change	High	Low	Vol	Open int
May	2.445	+0.036	2.455	2.400	28,578	42,666
Jun	2.475	+0.026	2.490	2.440	6,189	18,960
Jul	2.495	+0.030	2.510	2.465	3,374	15,205
Aug	2.510	+0.033	2.525	2.470	2,002	14,429
Sep	2.515	+0.040	2.525	2.475	1,216	11,162
Oct	2.525	+0.035	2.535	2.487	867	11,895
Total					44,829	269,285

■ UNLEADED GASOLINE NYMEX (42,000 US galls.; c/US galls.)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	51.45	-0.52	51.80	50.90	12,908	12,563
May	52.35	-0.83	53.05	51.65	13,231	43,255
Jun	53.05	-0.86	53.68	52.65	3,339	17,314
Jul	53.35	-0.61	53.55	52.95	1,143	12,743
Aug	53.35	-0.51	53.50	53.15	261	7,047
Sep	52.80	-0.66	52.80	52.65	784	8,351
Total					31,877	106,488

GRAINS AND OIL SEEDS

■ WHEAT LIFFE (100 tonnes; £ per tonne)

	Latest price	Day's change	High	Low	Vol	Open int
May	72.25	-	72.25	71.75	86	2,201
Jul	74.25	-	74.25	73.75	72	1,396
Sep	74.40	-0.20	-	-	-	134
Nov	77.00	-	77.00	76.25	35	2,994
Jan	78.85	+0.25	78.85	78.25	10	493
Total					238	7,368

■ WHEAT CBT (5,000bu min; cents/60lb bushel)

	Latest price	Day's change	High	Low	Vol	Open int
May	321.00	-4.00	326.75	320.00	5,600	42,526
Jul	331.00	-3.75	335.75	329.50	7,364	41,333
Sep	339.50	-3.25	343.50	338.75	322	8,371
Dec	352.25	-3.00	357.00	351.25	819	11,898
Mar	362.00	-1.50	362.00	362.00	20	1,152
Jul	355.00	-	358.00	358.00	3	39
Total					15,038	104,050

■ MAIZE CBT (5,000 bu min; cents/56lb bushel)

	Latest price	Day's change	High	Low	Vol	Open int
May	260.50	-7.25	267.00	259.50	23,026	123,577
Jul	267.00	-6.25	273.00	266.50	10,454	112,703
Sep	271.75	-5.00	277.00	271.50	2,163	27,000
Dec	274.75	-4.00	279.50	274.50	9,458	95,624
Mar	281.50	-3.25	285.00	281.00	371	7,094
May	286.00	-2.00	288.00	285.25	19	294
Total					52,099	368,887

■ BARLEY LIFFE (100 tonnes; £ per tonne)

	Latest price	Day's change	High	Low	Vol	Open int
May	72.75	-	-	-	-	229
Sep	72.50	+0.50	-	-	-	12
Nov	74.50	+0.50	74.50	74.50	10	492
Jan	76.50	+0.50	-	-	-	94
Mar	78.50	-	-	-	-	-
Total					10	828

■ SOYABEANS CBT (5,000bu min; cents/60lb bushel)

	Latest price	Day's change	High	Low	Vol	Open int
May	643.50	-8.25	649.50	642.00	15,786	65,840
Jul	646.00	-5.75	652.25	644.00	5,029	44,215
Aug	646.00	-5.00	652.00	644.50	439	9,549
Sep	631.50	-7.00	638.50	631.50	70	1,882
Nov	625.00	-7.25	633.00	623.00	3,814	29,917
Jan	631.00	-7.00	637.50	629.00	95	965
Total					27,897	153,098

■ SOYABEAN OIL CBT (60,000lbs; cents/lb)

	Latest price	Day's change	High	Low	Vol	Open int
May	27.19	-0.04	27.42	26.90	7,199	63,383
Jul	27.37	-0.07	27.48	27.09	2,805	53,588
Aug	27.18	-0.14	27.35	26.95	856	9,400
Sep	26.90	-0.18	27.05	26.75	705	6,274
Oct	26.30	-0.37	26.30	26.30	131	4,974
Dec	26.30	-0.13	26.40	26.12	2,352	13,706
Total					15,578	152,597

■ SOYABEAN MEAL CBT (100 tons; $/ton)

	Latest price	Day's change	High	Low	Vol	Open int
May	164.6	-3.6	168.5	163.8	5,522	50,598
Jul	167.2	-3.4	170.7	166.5	1,680	36,222
Aug	168.8	-3.1	171.8	168.3	412	14,342
Sep	170.3	-2.8	172.7	170.0	611	10,578
Oct	171.4	-2.4	173.7	171.0	281	4,371
Dec	174.4	-2.5	176.0	174.0	1,142	12,277
Total					11,498	130,324

■ POTATOES LIFFE (20 tonnes; £ per tonne)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	58.0	+1.0	60.0	58.0	55	448
May	68.0	+3.0	68.0	67.0	10	366
Jun	75.0	+5.0	-	-	-	-
Nov	60.0	-	-	-	-	3
Mar	88.0	-	-	-	-	-
Total					72	1,132

■ FREIGHT (BIFFEX) LIFFE ($10/index point)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	1005	+45	1010	985	41	622
May	1010	+40	1020	985	67	275
Jul	935	+25	935	913	12	306
Oct	1065	+35	-	-	-	131
Jan	1080	-	-	-	-	58
Total					120	1,693

	Close	Prev
BFI	973	973

SOFTS

■ COCOA LIFFE (10 tonnes; £/tonne)

	Latest price	Day's change	High	Low	Vol	Open int
May	1069	+17	1070	1050	1,797	26,950
Jul	1084	+17	1081	1065	420	17,492
Sep	1101	+18	1096	1085	5,550	26,674
Dec	1120	+17	1116	1105	5,397	27,467
Mar	1141	+13	1136	1127	320	37,714
Total					13,703	158,477

■ COCOA CSCE (10 tonnes; $/tonnes)

	Latest price	Day's change	High	Low	Vol	Open int
May	1654	+18	1664	1628	4,981	20,495
Jul	1674	+15	1678	1650	2,693	18,516
Sep	1696	+18	1696	1672	223	8,167
Dec	1705	-4	1710	1700	361	14,363
Mar	1738	-	1738	1738	10	8,502
May	1761	-	1761	1761	2	4,063
Total					8,266	75,853

■ COCOA (ICCO) (SDR's/tonne)

Mar 30	Price	Prev. day
Daily	1280.78	1295.54

■ COFFEE LIFFE (5 tonnes; $/tonne)

	Latest price	Day's change	High	Low	Vol	Open int
Mar	1841	+51	1805	1780	128	220
May	1841	+21	1844	1803	5,939	18,769
Jul	1801	+29	1800	1759	3,303	11,450
Sep	1771	+32	1768	1730	358	3,342
Nov	1741	+32	1708	1708	27	1,501
Jan	1711	-	1679	1679	-	111
Total					9,830	33,206

■ COFFEE 'C' CSCE (37,500lbs; cents/lbs)

	Latest price	Day's change	High	Low	Vol	Open int
May	148.00	+2.00	149.45	146.00	5,069	15,541
Jul	142.25	+1.80	143.25	140.60	1,088	8,205
Sep	136.40	+1.65	137.50	135.00	205	4,827
Dec	130.00	+1.50	130.40	129.00	259	3,773
Mar	126.50	+1.25	127.50	126.50	60	1,235
May	124.00	-	124.00	124.00	168	561
Total					6,880	32,333

■ COFFEE (ICO) (US cents/pound)

Mar 30		Prev. day
Comp. daily	121.49	120.11
15 day average	118.77	119.63

■ WHITE SUGAR LIFFE (50 tonnes; $/tonne)

	Latest price	Day's change	High	Low	Vol	Open int
May	268.0	+2.2	268.0	265.3	1,227	14,149
Aug	271.2	+1.7	271.2	268.9	999	10,579
Oct	274.9	+1.1	275.6	273.6	507	7,483
Dec	276.8	+0.1	276.8	276.8	152	1,154
Mar	281.3	-0.2	281.5	281.3	59	981
May	283.4	-	283.4	283.4	6	504
Total						

■ SUGAR '11' CSCE (112,000lbs; cents/lbs)

	Latest price	Day's change	High	Low	Vol	Open int
May	10.13	+0.27	10.14	9.92	11,104	82,046
Jul	9.77	+0.23	9.77	9.56	7,057	43,864
Oct	9.93	+0.14	9.94	9.81	1,411	43,344
Mar	10.22	+0.11	10.26	10.11	1,004	18,610
May	10.18	-	10.16	10.16	121	2,467
Jul	10.30	+0.07	10.30	10.23	20	3,415
Total					28,604	178,144

■ COTTON NYCE (50,000lbs; cents/lbs)

	Latest price	Day's change	High	Low	Vol	Open int
May	67.82	-2.41	69.10	67.60	14	28,768
Jul	69.25	-2.30	69.50	69.00	15	17,886
Oct	71.20	-2.01	71.80	71.20	7	3,232
Dec	72.55	-2.03	73.00	72.50	161	25,693
Mar	73.75	-1.80	74.30	73.75	1	1,925
May	74.50	-1.55	75.00	74.40	20	772
Total					9,212	82,130

■ ORANGE JUICE NYCE (15,000lbs; cents/lbs)

	Latest price	Day's change	High	Low	Vol	Open int
May	105.00	-1.65	106.20	104.65	2,658	20,589
Jul	108.00	-1.55	109.00	107.65	829	7,498
Sep	111.00	-1.55	112.00	111.00	193	3,834
Nov	113.00	-1.20	113.50	112.85	77	3,332
Jan	114.05	-1.35	114.50	114.05	74	1,304
Mar	-	-	-	-	-	759
Total					1,554	38,805

PULP AND PAPER

■ PULPEX OMLX (US$; 24 air dry tons)

	Sett price	Day's change	High	Low	Vol	Open int
Jun	529.25	+4.25	529.25	526.00	42	480
Sep	551.75	+5.75	551.75	548.00	34	179
Total					85	721

FUTURES DATA
All futures data supplied by CMS.

Minor metals from Metal Bulletin
European free market, $ per lb in warehouse (last week's in brackets, where changed). Antimony: 99.65%, $ per tonne, 1,550-1,630 (1,580-1,630). Bismuth: min. 99.99%, tonne lots 4.00-4.15 (3.95-4.15). Cadmium: min. 99.95%, cents a pound, 28.00-35.00. Cobalt: MB free market, min. 99.8%, 24.50-25.00 (25.00-25.70); min. 99.3%, 19.70-20.20 (20.00-20.50). Mercury: min. 99.99%, $ per 76 lb flask, 138-148. Molybdenum: drummed molybdic oxide, 4.45-4.50 (4.40-4.55). Selenium: min 99.5%, 1.70-2.50. Tungsten ore: standard min. 65%, $ per tonne unit (10kg) WO_3, CIF, 40-52. Vanadium: min. 98%, CIF, 5.95-6.20 (5.75-6.00). Uranium: Nuexco unrestricted exchange value, 9.30.

VOLUME DATA
Open interest and Volume data shown for contracts traded on COMEX, NYMEX, CBT, NYCE, CME, CSCE and IPE Crude Oil are one day in arrears. Volume & Open interest totals are for all traded months.

INDICES

■ Reuters (Base: 18/9/31 = 100)

Mar 31	Mar 30	month ago	year ago
1689.8	1676.8	1686.0	1982.8

■ CRB Futures (Base: 1967 = 100)

Mar 30	Mar 27	month ago	year ago
229.14	229.93	-	-

■ GSCI Spot (Base: 1970 = 100)

Mar 30	Mar 27	month ago	year ago
169.05	170.53	165.10	183.44

LME WAREHOUSE STOCKS (tonnes)

Aluminium	-375	to	544,575
Aluminium alloy	+180	to	46,340
Copper	-3,075	to	340,025
Lead	-125	to	95,500
Nickel	-42	to	64,506
Zinc	-1,075	to	459,100
Tin	-260	to	7,405

MEAT AND LIVESTOCK

■ LIVE CATTLE CME (40,000lbs; cents/lbs)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	63.725	-0.025	63.925	63.100	10,709	31,922
Jun	65.825	+0.275	66.000	64.900	10,013	37,715
Aug	66.725	+0.025	67.150	66.450	2,142	15,021
Oct	67.800	-0.075	68.150	67.300	592	10,095
Dec	69.050	-	69.225	68.675	468	3,109
Feb	70.650	-0.150	70.800	70.300	159	1,073
Total					24,198	99,252

■ LEAN HOGS CME (40,000lbs; cents/lbs)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	53.500	+0.025	54.000	51.950	3,238	9,770
Jun	59.750	+0.275	60.100	58.250	3,527	13,054
Jul	58.450	-0.175	58.975	58.150	1,039	4,960
Aug	56.200	+0.025	56.550	55.000	652	3,320
Oct	53.600	+0.125	53.800	52.750	408	3,085
Dec	54.300	+0.650	54.400	53.300	250	2,961
Total					9,154	37,768

■ PORK BELLIES CME (40,000lbs; cents/lbs)

	Latest price	Day's change	High	Low	Vol	Open int
May	52.550	-	52.900	50.850	2,034	5,777
Jul	50.650	-0.075	50.850	48.800	534	2,350
Aug	48.450	-0.150	48.750	46.050	136	1,019
Sep	47.500	+1.500	47.500	46.100	1	16
Nov	46.000	-0.200	46.000	45.800	7	38
Total					2,713	9,199

LONDON TRADED OPTIONS

Strike price $ tonne	Calls		Puts	
■ ALUMINIUM (99.7%) LME	May	Aug	May	Aug
1400	50	87	15	29
1500	8	38	73	77
1600	1	13	165	149
■ COPPER (Grade A) LME	May	Aug	May	Aug
1700	86	130	27	57
1800	34	80	75	103
1900	11	45	150	167
■ COFFEE LIFFE	Mar	May	Mar	May
1700	148	148	7	45
1750	105	115	14	64
1800	68	88	27	87
■ COCOA LIFFE	May	Jul	May	Jul
1050	29	60	10	26
1075	15	46	21	37
1100	7	35	38	51
■ BRENT CRUDE IPE	May	Jun	May	Jun
1500	19	53	-	-
1550	13	40	-	-
1600	-	28	-	-

LONDON SPOT MARKETS

■ CRUDE OIL FOB (per barrel)

		+or-
Dubai	$12.18-2.26x	-0.385
Brent Blend (dated)	$13.70-3.75	-0.535
Brent Blend (May)	$14.40-4.45	-0.435
W.T.I.	$15.75-5.80x	-0.470

■ OIL PRODUCTS NWE prompt delivery CIF (tonne)

Premium Gasoline	$159-161	-5
Gas Oil	$133-134	-5
Heavy Fuel Oil	$63-65	-1
Naphtha	$136-139	-4.5
Jet fuel	$142-143	-5
Diesel	$137-139	-5

■ NATURAL GAS (Pence/therm)

Bacton (Apr)	8.600-8.700	-

Petroleum Argus. Tel. London (0171) 359 8792

■ OTHER

Gold (per troy oz)‡	$301.35	-1.40
Silver (per troy oz)‡	635.50c	-8.00
Platinum (per troy oz.)	$407.00	+0.25
Palladium (per troy oz.)	$266.00	-4.00
Copper	84.0c	
Lead (US prod.)	45.00c	
Tin (Kuala Lumpur)	19.77r	
Tin (New York)	265.5	
Cattle (live weight)	87.93p	-0.25*
Sheep (live weight)	97.21p	-1.52*
Pigs (live weight)†	72.74p	-2.82*
Lon. day sugar (raw)	$246.10	
Lon. day sugar (wte)	$268.50	
Barley (Eng. feed)	Unq	
Maize (US No3 Yellow)	£109.00	
Wheat (US Dark North)	Unq	
Rubber (Apr)♥	47.50p	
Rubber (May)♥	47.50p	
Rubber (KL RSS No1)	270.00m	-0.60
Coconut Oil (Phil)§	572.5y	+2.5
Palm Oil (Malay.)§	645.0	+2.5
Copra (Phil)§	$377.5y	
Soyabeans (US)	173.0	
Cotton Outlook'A' index	68.35	
Wooltops (64s Super)	370p	

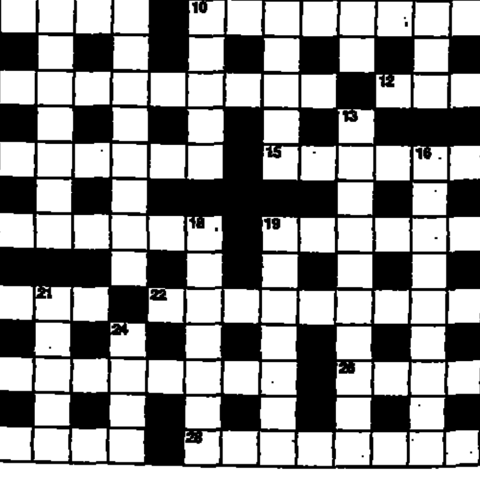
£ per tonne unless otherwise stated. p pence/kg. c cents/lb. r ringgit/kg. m Malaysian cents/kg. y May/Jun. x May. ♥London Physical. § CIF Rotterdam. ‡ Bullion market close. * Change on week. †Based on 3,825 head of pigs sold.

JOTTER PAD

From April 4, a new FT Saturday Crossword prize with your name on it.
Awarded by Abels, the Royal Warrant holding removals company, to three winners each week: finely engraved personalised stationery by Crane & Co, America's distinguished papermaker. Sets of notepaper, correspondence cards and puff-folded lined envelopes in Crane watermarked 100% cotton Ecru Kid Finish paper.

CROSSWORD

No.9,646 Set by DARCY



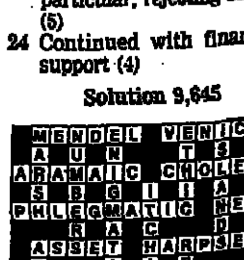
ACROSS

1 Able to manage, having noticed a handy tool (6,3)
6 Clarify most of dispute about company's backing (5)
9, 10 Last of all, tighten hinges, nuts and bolts (5,9)
11 Advert describing profitable business (10)
12 A group of people flying back from some distance (4)
14 Staff led by crazy striker? (7)
15 Problem in sight with middle part of glaze you replaced twice (4,3)
17 Coy miss, becoming agitated, makes a complaint (7)
19 One cast in the role of devil's advocate? (7)
20 Troubles returning for a mixer? (4)
22 Brochures generally used well-written material (10)
25, 26 One may put across all angles in motion dealing with rife form of drug abuse (9,5)
27 Line in handy earthenware (5)
28 I'll tell tales, and court near disaster (8)

DOWN

1 Brief kind of relationship with company secretary (5)
2, 21 One does more than crack the surface, in various ways (9,5)
3 Article going into diabolical monster found in such regions (10)
4 Elementary ingredient for making chips (7)
5 React thus, as a "gay dog" introduces a "bird"? (7)
6 A lot of excess weight carried by endomorph, initially (4)
7, 16 One's kept by cook – carry out about four for the president? (5,9)
8 Root around to offer some kind of sweetener? (5,4)
13 Trained a zebra over one short month in part of Asia (10)
14 Specifically trained troops sent to sort mine out? (4,5)
16 See 7 down
18 Awfully cross about one's being cut (7)
19 A woman to ring up for some resin (7)
21 See 2 down
23 Someone dining is more particular, rejecting starter (5)
24 Continued with financial support (4)

Solution 9,645



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هكذا من الأصل

USDA forecasts switch to soyabeans

OSSWORD

FT MANAGED FUNDS SERVICE

● FT Cityline Unit Trust Prices are available over the telephone. Call the FT Cityline Help Desk on (+44 171) 873 4378 for more details.

OFFSHORE AND OVERSEAS

BERMUDA (FSA RECOGNISED)

BERMUDA (REGULATED)(**)

GUERNSEY (FSA RECOGNISED)

GUERNSEY (REGULATED)(**)

IRELAND (FSA RECOGNISED)

IRELAND (REGULATED)(**)

ISLE OF MAN (FSA RECOGNISED)

ISLE OF MAN (REGULATED)(**)

JERSEY (FSA RECOGNISED)

JERSEY (REGULATED)(**)

LUXEMBOURG (FSA RECOGNISED)

Offshore Funds and Insurances

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LUXEMBOURG (REGULATED)(**)

OFFSHORE INSURANCES

هكذا من الأصل

FT MANAGED FUNDS SERVICE

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OTHER OFFSHORE FUNDS

LONDON SHARE SERVICE

ALCOHOLIC BEVERAGES

[illegible]

BANKS, RETAIL

[illegible]

BREWERIES, PUBS & REST

[illegible]

BUILDING MATS. & MERCHANTS

[illegible]

CHEMICALS

[illegible]

CONSTRUCTION

[illegible]

CONSTRUCTION - Continued

[illegible]

DISTRIBUTORS

[illegible]

DIVERSIFIED INDUSTRIALS

[illegible]

ELECTRICITY

[illegible]

ELECTRONIC & ELECTRICAL EQPT

[illegible]

ENGINEERING

[illegible]

ENGINEERING - Continued

[illegible]

ENGINEERING, VEHICLES

[illegible]

EXTRACTIVE INDUSTRIES

[illegible]

EXTRACTIVE INDUSTRIES - Continued

[illegible]

FOOD PRODUCERS

[illegible]

GAS DISTRIBUTION

[illegible]

HEALTH CARE

[illegible]

HEALTH CARE - Continued

[illegible]

HOUSEHOLD GOODS & TEXT

[illegible]

HOUSEHOLD GOODS & TEXT - Continued

[illegible]

INSURANCE

[illegible]

INVESTMENT TRUSTS

[illegible]

INVESTMENT TRUSTS - Continued

[illegible]

INV TRUSTS SPLIT CAPITAL

[illegible]

هكذا من الأصل

LONDON SHARE SERVICE

INV TRUSTS SPLIT CAPITAL - Continued

OTHER INVESTMENT TRUSTS

INVESTMENT COMPANIES

LEISURE & HOTELS

LIFE ASSURANCE

MEDIA

MEDIA - Continued

OIL EXPLORATION & PRODUCTION

OIL, INTEGRATED

OTHER FINANCIAL

PAPER, PACKAGING & PRINTING

PHARMACEUTICALS

PHARMACEUTICALS - Continued

PROPERTY

PROPERTY - Continued

RETAILERS, FOOD

RETAILERS, GENERAL

RETAILERS, GENERAL - Continued

SUPPORT SERVICES

SUPPORT SERVICES - Continued

TELECOMMUNICATIONS

TOBACCO

TRANSPORT

TRANSPORT - Continued

WATER

AIM

AIM - Continued

AMERICANS

CANADIANS

SOUTH AFRICANS

TRADED INDEX SECURITIES

GUIDE TO LONDON SHARE SERVICE

This service is available to companies whose shares are regularly traded in the United Kingdom for a fee of £7495 a year for each security shown, subject to the Editor's discretion

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LONDON STOCK EXCHANGE

Wall St gain triggers strong rally in London

MARKET REPORT

By Steve Thompson, UK Stock Market Editor

A burst of strength on Wall Street yesterday came to the rescue of a London market suffering from interest rate nerves and the impact of sterling's latest surge.

After an indecisive morning, the London market moved confidently into positive territory during the last 20 minutes of trading, as the Dow Jones Industrial Average posted an 80-point plus rise.

At the close, the FTSE 100 was 20.3 higher at 5,932.2, recovering strongly from its earlier ragged performance. The index was down around 36 points before Wall Street's opening.

The late rally in the leaders did not extend to the second-liners and smallcaps, however, which finished the day in negative territory.

The FTSE 250 was never under as much pressure as the 100 index but gave up modest gains to settle 2.9 lower at 5,525.4, having posted a 5.8 rise in the early part of the day. The FTSE SmallCap was up 3.9 at best, but fell into negative ground during the afternoon, eventually closing at the day's lowest, down 4.9 at 2,629.5.

Dealers said the late surge in UK stock prices reflected a more relaxed attitude by US investors to yesterday's meeting of the Federal Reserve's open market committee, which met to determine interest rate policy.

"The feeling in the market is that the Fed will leave rates on hold but we need to get the whole interest rate thing out of the way before London makes a decisive move in either direction," said one salesman.

He said there were many fund managers in London still fretting about the possibility of an interest rate rise here after the next meeting of the monetary policy committee, which commences next Wednesday; the decision on whether to increase rates or leave them on hold will be announced at midday the following day.

The minutes of the February meeting revealed the committee was split 4-4 over whether to lift rates, with Eddie George, governor of the Bank of England, using his casting vote to leave rates unchanged.

Commenting on the market's technical picture, Richard Lake at Brewin Dolphin, the stockbroker, said the FTSE 100 "remains in a strong uptrend and comfortably above its rising 50-day and 200-day moving averages and a move into the 6,000-6,500 area is not a particularly large rise". But Mr Lake warned of his concern that two dominant sectors, retail banks and pharmaceuticals, continued to ease in absolute terms.

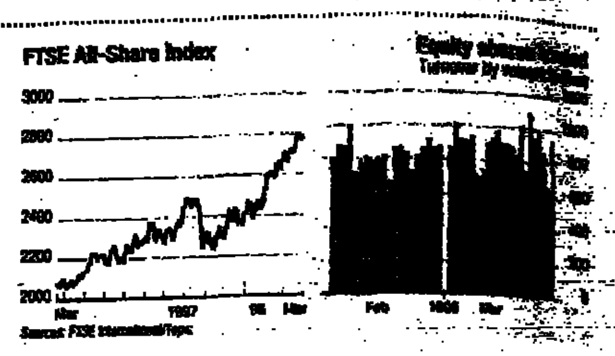
The niggling worries about rates and sterling were only partly offset by more takeover rumours. Bid talk was notable in the retail area where Next was the star performer, responding to reports that Asda, the food retailer, could make an offer.

Power generators also attracted fresh support as talk that US predators were circling the utilities continued to gain credence.

Oil shares were among the most disappointing areas, falling across a broad front as dealers expressed scepticism over the likelihood of Opec and non-Opec countries adhering to reduced output allocations.

Turnover at 6pm was 937m shares, well up on Monday's depressed level.

FTSE All-Share Index / **Equity shares traded** — Turnover by volume



Source: FTSE International/Topic

Indices and ratios

FTSE 100	5932.2	+20.3	FT 30	3766.1	+15.6
FTSE 250	5525.4	-2.9	FTSE Non-Fins p/e	19.32	22.33
FTSE 350	2852.3	+7.7	FTSE 100 Fut Mar	5967.0	-30.0
FTSE All-Share	2781.66	+6.67	10 yr Gilt yield	5.96	6.09
FTSE All-Share yield	2.80	2.80	Long gilt/equity yld ratio	2.13	2.14

Best performing sectors

1. Pharmaceuticals .... +1.7
2. Breweries, Pubs & Rest .... +1.4
3. Engineering: Vehicles .... +1.2
4. Support Services .... +1.1
5. Retailers: Food .... +1.1

Worst performing sectors

1. Health Care .... -1.4
2. Oil Exploration .... -1.3
3. Household Goods .... -1.2
4. Life Assurance .... -1.0
5. Engineering .... -1.0

BP hit by global oil deal

COMPANIES REPORT

By Peter John and Martin Brice

Further weakness in the underlying oil price following the latest pronouncement by Opec sent BP, the UK major most exposed to oil prices, sharply lower.

The shares fell 15 to 862p and the slide was responsible for much of the overall market weakness early on.

A joint agreement between Opec and non-Opec countries, which will lead to cuts in global production of 1.5m barrels a day, prompted Brent crude to fall more than 50 cents at one stage.

There was some disappointment that the cuts were not higher and John Toalster at SG Securities said the initiative lacked credibility.

But the slide was principally a testament to the tried and tested market technique of buying on rumour and selling on fact.

However, analysts added that, with the first quarter out of the way, the market now had hard numbers to work into profit models.

Michael Mayer, of Schroder & Co in New York, predicts that first-quarter earnings will be 45 per cent below the levels seen a year ago.

UK brokers were slightly less pessimistic. One said the majors would be shielded by improved refining margins and a lower tax charge.

Nevertheless, they acknowledged that a fall of 32 per cent in the oil price since the first quarter last year, and 14 per cent since the previous quarter, is bound to weigh on earnings.

Talk of a tie-up between Asda and Next refused to die and sent both stocks higher.

Next, heavily marked down last week following a profits warning, received an additional boost from director share buying.

David Jones, chief executive, bought 100,000 shares at 540p and the company added that the Next employee share option plan trust had purchased 1.25m at 546p.

Finally, SG Securities published a "buy" recommendation arguing that recent weakness created a good long-term buying opportunity in a quality stock. Next gained 29 to 579p. Asda improved 7 to 202¼p.

Transport stocks were a focus of investor attention, with the old story of a bid from British Airways sparking the advance at Avis Europe of 13 to 241½p, the best performance in the FTSE 250. BA, down 2¼ to 607¼p, is said to seek a tie-up with car hire and tickets.

FirstGroup was also a strong FTSE 250 performer as the shares rose 11½ to 361½p following its success in winning the Hong Kong bus franchise. The deal, its first investment outside the UK, marks the beginning of the group's ambitions to expand in China.

Railtrack ran into profit-taking and lost 31 to 980p. The shares had reacted positively to the company's recent network management statement and an upbeat presentation to analysts.

Relief at some good news for the hard-pressed biotechnology sector sent Chiroscience racing ahead 60 to 323½p. Zeneca confirmed expectations that it would take a stake in the company and outlined its proposal to pay Chiroscience £15m for 3.53m new shares. Zeneca, which is to pay 425p a share for the 3.2 per cent stake, eased 11 to £25.74.

Oxford Molecular, the supplier of software to the biotechnology and pharmaceuticals industry, lifted 15 to 192½p after turning in a profit for the first time.

Nycomed dropped 13 to £22.37 after NatWest advised clients to "reduce" holdings. However, the non-voting shares gained 140 to £22.20.

Smith & Nephew fell 12 to 166p after the company said Advanced Tissue Sciences, its joint venture partner for the Dermagraft artificial skin product, had received a warning from the US Food & Drug Administration about its manufacturing plant.

National Power was the strongest Footsie performer in early trading on continuing speculation about a US bid. The stock was up 33, reflecting a rise in the American Depositary Receipts. However, the rumours, which were sparked by a Sunday newspaper story, were fading fast by the afternoon. The shares ended the day flat at 612p while PowerGen, dragged along in the slipstream, remained 16 aloft at 836p.

Hays higher

Hays achieved one of the best performances in the Footsie as the stock benefited from a presentation to analysts.

One analyst who attended the meeting said: "They were very impressive. The company showed us how they would double the size of the company within three or four years. And their plans look very achievable. They are probably one of the best business services companies around."

The shares rose 42 to £10.73, where they stood at about 33 times earnings, a similar rating to some of the more expensive information technology stocks.

Rentokil Initial benefited from the positive sentiment, and gained 10¼ to 364¼p.

The recent trend of strong results from construction-related stocks continued with Rugby Group, which beat most analysts' forecasts with its underlying advance of 20 per cent to £77m.

The dividend of 4p was also usefully ahead of forecasts and the shares responded positively, rising 2¼ to 125¾p in volume of 4.1m.

Elsewhere in building-related stocks, Ruberoid, the waterproofing systems group, gained 6 to 101p after taking pre-tax profits from £1.2m to £6.6m.

Goldman Sachs downgraded its stance on Blue Circle from "market outperformer" to "market performer" after recent results. Mike Betts at the broker said the shares were now trading in line with his 367p estimate of fair value.

He has also eased his forecast for earnings per share by 0.8p to 27.6p for this year. The shares slipped ¾ to 366p.

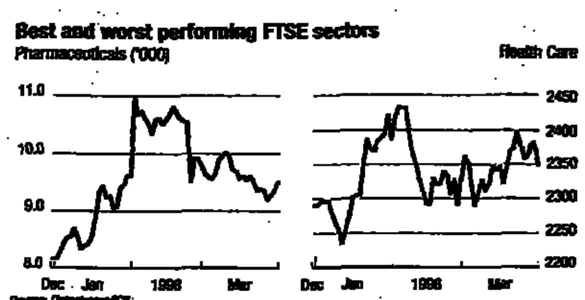
Hepworth lost 5 to 259p after it announced full-year figures that prompted some upgrades but gave no news on any takeover moves. There had been talk that Valliant of Germany was lining up a 270p a share bid.

Pearson, the company that owns the Financial Times, resisted the market's early slide with the help of a reiterated "buy" note from Merrill Lynch. The shares were firm all day and closed 2 higher at 970p.

A profits warning from GWR sent the radio station's share price down 14 to 178½p and also dragged Capital Radio 39 lower to 705p in spite of an upbeat presentation by Capital to analysts.

Best and worst performing FTSE sectors

Pharmaceuticals ('000) / Health Care



Source: Datastream/ICV

FT 30 INDEX

	Mar 31	Mar 30	Mar 27	Mar 26	Mar 25	Yr ago	*High	*Low
FT 30	3766.1	3750.3	3768.7	3754.1	3790.2	2812.5	3798.7	3736.4
Ord. div. yield	2.93	2.95	2.94	2.94	2.91	3.95	4.22	2.90
P/E ratio net	24.21	24.05	24.16	24.11	24.33	16.82	24.48	15.80
P/E ratio nil	24.00	23.84	23.94	23.90	24.11	16.65	24.28	15.71

FT 30 since compilation: high 3798.7 19/03/98; low 49.4 26/06/40. Base Date: 1/7/35.

FT 30 hourly changes

Open	9	10	11	12	13	14	15	16	High	Low
3750.3	3755.4	3747.8	3749.6	3754.1	3735.1	3751.6	3741.6	3748.5	3766.1	3736.4

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STOCK MARKET TRADING DATA

	Mar 31	Mar 30	Mar 27	Mar 26	Mar 25	Yr ago
SEAQ bargains	79,032	79,977	77,102	73,069	74,114	57,809
Equity turnover (£m)†	-	na	na	3240.6	3617.6	3955.7
Equity bargains†	-	na	na	58,749	84,403	67,506
Shares traded (m)†	-	na	na	847.0	959.9	986.2
Total market bargains‡	-	na	na	66,472	75,409	na
Total turnover (£m)‡	-	na	na	4929.0	4906.5	na
Total shrs traded (m)‡	*935.5	na	na	‡1172.1	‡1213.8	na
Tradepoint turnover (£m)	31.5	54.8	24.8	28.5	20.7	1.8
Tradepoint shrs traded	9,560	11,054	9,047	10,358	7,392	266

†Excluding intra-market and overseas turnover but including Crest turnover. *UK only total at 6pm. ‡ UK plus intra-market turnover.

London market data

Rises and falls*		52 Week highs and lows		LIFFE Equity options	
Total Rises	789	Total Highs	203	Total contracts	22,051
Total Falls	875	Total Lows	49	Calls	9,317
Same	1,344			Puts	12,734

Mar 31 *Data based on Equity shares listed on the London Share Service.

FUTURES AND OPTIONS

FTSE 100 INDEX FUTURES (LIFFE) £10 per full index point

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	5960.0	5967.0	+14.0	6009.0	5939.0	20252	152708
Sep		6045.0	+14.0			0	3085

FTSE 250 INDEX FUTURES (LIFFE) £10 per full index point

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	5553.0	5553.0	+2.0	5553.0	5553.0	3	6404

FTSE 100 INDEX OPTION (LIFFE) (*5918) £10 per full index point

	5750 C	5750 P	5800 C	5800 P	5850 C	5850 P	5900 C	5900 P	5950 C	5950 P	6000 C	6000 P	6050 C	6050 P	6100 C	6100 P
Apr	223½	51	186½	64½	150	83	120	104	92½	127	70½	158	52	186½	38	225
May	288	111	252	124½	220	144	201½	164	172½	186½	147	211½	128	243	104	271
Jun	365	153½	336	175	308	195	275	215½	246½	236	218	259½	198½	288	172½	316
Jul	420½	189½	390½	208½	358	227	328	245	295½	265½	308½	286½	341½	313	218½	341
Dec†			603½	311			543½	352			493	397			439½	449½

Calls 1,402 Puts 989

EURO STYLE FTSE 100 INDEX OPTION (LIFFE) £10 per full index point

	5725		5775		5825		5875		5925		5975		6025		6075	
Apr	206½	45½	260	58	184½	72½	133	98½	106	112½	80½	136	90	157½	42	200
May	315	102	279½	115½	245	131	213	148½	184½	168½	158	192½	133	217½	112	245½
Jun	385½	147	361½	162½	318	179	288	197½	258½	215	227	235	201½	259½	177½	284
Sep	526½	216½			460½	247			398	282			342½	323½		
Dec†	650½	268			598	298			528	332½			480½	371½		

Calls 2,785 Puts 5,326 * Underlying index value. Premiums shown are based on settlement prices. † Long dated expiry months.

LONDON RECENT ISSUES: EQUITIES

Issue price p	Amt paid up	Mkt. cap (£m.)	1997/98 High	1997/98 Low	Stock	Close price p	+/-	Net div	Div. cov.	Grs. yld	P/E net
*100	100	35.8	100	100	Advent 2 VCT	100		-	-	-	-
-	F.P.	856.9	118	94	Bass B	96½	-1	-	-	-	-
-	F.P.	-	12	4	Eurotel 01/03 Wts	4½		-	-	-	-
-	F.P.	547.9	188½	182	Express Dairies	187	+5	LN8.6	1.5	5.3	15.4
§255	F.P.	220.1	447½	411½	Guardian IT	430	+2½	-	-	-	78.8
-	F.P.	4.30	3¼	2¼	†Hartford Grp	3		-	-	-	-
§158	F.P.	352.7	202½	189	Montanaro	198½	-1½	L4.0	2.2	2.3	22.7
§280	F.P.	187.2	468½	412½	Oxford Asymmetry	453½	+4½	-	-	-	77.7
§25	F.P.	5.53	117½	77	†Peel Hotels	118½	-4				
§125	F.P.	10.7	184½	127½	†Pennant Intl	182½		W3.18	2.5	-	28.5
-	F.P.	18.0	98	90	Quester VCT 2	90		12.4	-	3.3	-
-	F.P.	8.22	110	81½	†Salvation	81½	-2	-	-	-	-

† Alternative Investment Market. § Placing price. * Introduction. For a full explanation of all other symbols please refer to The London Share Service notes.

RIGHTS OFFERS

Issue price p	Amount paid up	Latest Renun. date	1997/98 High	1997/98 Low	Stock	Closing price p	+or-
280	Nil	17/4	25pm	24½pm	Cap & Reg Props	25pm	
10	Nil	17/4	7½pm	3½pm	Oxford Biomedica	5½pm	
180	Nil	6/4	42½pm	25pm	Paragon	30pm	+1½
3	Nil	3/4	2¼pm	¼pm	Pax	1½pm	-¼
235	Nil	8/4	23pm	12½pm	Westbury	14pm	-1

pm premium.

FTSE GOLD MINES INDEX

	Mar 30	% chg on day	Mar 27	Year ago	Gross div yield %	P/E ratio	52 week High	52 week Low
Gold Mines Index (32)	1151.92	+0.0	1151.78	1654.82	2.12	-	1654.82	881.23
Regional Indices								
Africa (14)	1089.43	+5.0	1037.21	1943.30	5.01	20.42	1943.30	921.78
Australasia (7)	1412.03	+0.7	1401.78	1947.75	2.42	18.99	1952.18	933.63
North America (11)	1153.82	-1.8	1174.43	1540.16	1.06	43.13	1574.16	864.86

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FTSE Actuaries Share Indices — The UK Series

Produced in conjunction with the Faculty and Institute of Actuaries

	Mar 31	Day's chge%	Mar 30	Mar 27	Year ago	Gross yield%	Net yield%	Net cover	P/E ratio	Xd adj. ytd	Total Return
FTSE 100	5932.2	+0.3	5911.9	5939.3	4248.1	2.75	2.33	2.06	22.01	49.69	2583.31
FTSE 250	5525.4	-0.1	5528.3	5533.2	4497.4	2.86	2.48	2.15	19.68	31.94	2353.89
FTSE 250 ex IT	5568.7	-0.1	5572.8	5572.6	4539.3	3.04	2.56	2.22	18.54	32.66	2380.81
FTSE 350	2852.3	+0.3	2844.6	2855.8	2095.2	2.79	2.36	2.08	21.53	22.50	2536.94
FTSE 350 ex IT	2856.8	+0.3	2849.1	2860.0	-	2.81	2.37	2.09	21.29	22.74	1303.29
FTSE 350 Higher Yield	2831.9	+0.1	2828.3	2842.3	2018.8	3.72	3.18	1.99	16.91	26.38	2148.09
FTSE 350 Lower Yield	2891.2	+0.4	2880.3	2888.3	2178.4	2.08	1.73	2.20	27.30	19.16	2093.31
FTSE SmallCap	2629.54	-0.2	2634.40	2637.88	2280.31	2.89	2.33	1.52	28.44	12.74	2273.21
FTSE SmallCap ex IT	2625.93	-0.3	2632.62	2633.68	2293.79	3.09	2.50	1.58	25.65	12.42	2291.78
FTSE All-Share	2781.66	+0.2	2774.99	2785.44	2067.37	2.80	2.36	2.04	21.86	21.40	2510.63
FTSE All-Share ex IT	2788.57	+0.2	2781.85	2791.97	-	2.82	2.38	2.06	21.49	21.71	1294.84

FTSE Actuaries Industry Sectors

	Mar 31	Day's chge%	Mar 30	Mar 27	Year ago	Gross yield%	Net yield%	Net cover	P/E ratio	Xd adj. ytd	Total Return
10 RESOURCES(22)	4638.94	-0.9	4679.64	4702.61	4073.52	3.24	2.80	1.84	20.95	27.12	2112.99
12 Extractive Industries(5)	3157.15	-0.2	3163.98	3197.27	4035.14	4.33	4.00	2.08	13.86	72.61	995.18
15 Oil, Integrated(4)	5157.33	-0.9	5205.27	5225.36	4187.88	3.28	2.77	1.80	21.58	17.89	2411.91
16 Oil Exploration & Prod(13)	3275.71	-1.3	3317.42	3344.11	3367.94	1.75	1.45	1.93	36.91	21.16	2028.21
20 GEN INDUSTRIALS(222)	2231.07	-0.1	2234.13	2240.09	1976.78	3.35	2.92	2.30	16.27	17.50	1303.44
21 Construction(36)	1629.36	-0.2	1633.31	1642.47	1326.87	2.96	2.41	2.50	16.90	10.29	1445.27
22 Building Matls & Merchs(27)	1886.17	-0.6	1896.76	1918.55	1826.32	3.94	3.36	2.70	11.78	9.24	1015.78
23 Chemicals(24)	2822.86	+0.8	2800.03	2813.90	2247.51	3.32	3.10	1.83	20.59	24.81	1437.06
24 Diversified Industrials(11)	1463.55	+0.1	1461.75	1489.39	1493.37	3.90	3.64	2.22	14.47	16.50	896.88
25 Electronic & Elect Equip(27)	2561.73	+1.0	2537.57	2498.10	2192.04	3.34	2.70	1.64	22.77	18.05	1409.85
26 Engineering(61)	3013.68	-1.0	3044.14	3055.91	2572.78	3.15	2.79	2.40	16.63	27.58	1836.83
27 Engineering, Vehicles(10)	4065.73	+1.2	4015.94	4021.02	2806.68	2.19	2.00	3.30	17.28	28.22	2232.54
28 Paper, Pckg & Printing(24)	2230.05	-0.3	2236.91	2244.20	2487.39	4.60	3.85	2.18	12.49	15.02	997.48
30 CONSUMER GOODS(92)	5875.96	+1.0	5818.36	5614.39	4109.78	2.54	2.30	1.86	26.52	58.64	2239.88
32 Alcoholic Beverages(6)	3936.73	+0.8	3904.18	3978.56	2894.59	2.85	2.92	1.85	22.82	65.09	1537.88
33 Food Producers(25)	3884.94	+0.8	3854.48	3876.11	2882.12	2.78	2.37	2.08	21.67	22.30	1870.85
34 Household Goods & Texts(24)	3452.12	-1.2	3494.75	3445.76	2873.24	3.16	2.82	2.22	17.80	36.23	1450.77
36 Health Care(14)	2349.29	-1.4	2382.81	2378.15	2162.40	2.13	1.93	2.30	25.43	9.49	1492.72
37 Pharmaceuticals(20)	9500.73	+1.7	9342.62	9262.80	6392.16	1.93	1.70	1.70	38.04	85.22	3394.43
38 Tobacco(3)	5060.75	-0.1	5066.18	5107.07	4259.47	4.74	4.48	1.78	14.81	121.61	1413.89
40 SERVICES(278)	3415.78	+0.4	3401.36	3404.48	2607.07	2.48	2.01	1.99	25.32	14.24	1889.22
41 Distributors(26)	2821.98	+0.3	2814.40	2802.38	2833.26	3.38	2.77	2.00	18.51	23.53	1103.77
42 Leisure & Hotels(27)	3965.93	+0.2	3958.18	3937.94	3417.42	2.54	2.03	2.32	21.21	47.84	2243.92
43 Media(41)	4446.78	-0.5	4468.43	4472.19	4209.79	2.31	1.95	2.17	24.90	43.29	1682.25
44 Retailers, Food(13)	3108.96	+1.1	3074.72	3076.85	1982.14	2.71	2.17	2.27	20.33	3.94	2094.41
45 Retailers, General(49)	2384.51	—	2384.46	2382.02	2041.80	3.03	2.43	2.22	18.55	8.23	1439.78
46 Telecommunications(10)	3806.23	+0.5	3788.14	3787.17	2239.03	2.31	1.87	1.51	36.69	4.04	1850.67
47 Breweries, Pubs & Rest.(24)	4374.55	+1.4	4313.95	4326.22	3300.24	2.70	2.16	2.40	19.30	15.53	2219.67
48 Support Services(61)	4788.90	+1.1	4734.62	4743.54	2870.17	1.24	1.05	2.53	39.83	4.97	3141.58
49 Transport(25)	3474.23	+0.1	3469.83	3483.05	2757.14	2.98	2.43	1.27	33.01	21.56	1541.76
60 UTILITIES(23)	3871.82	+0.3	3861.64	3865.50	2638.35	4.01	3.21	1.68	18.42	6.35	1625.97
62 Electricity(9)	4335.48	+0.7	4306.19	4304.31	2787.29	4.30	3.44	2.18	13.35	7.28	2501.33
64 Gas Distribution(2)	2844.08	-0.3	2851.42	2861.61	1512.33	2.29	1.83	‡	‡	0.00	1628.99
68 Water(12)	3487.65	-0.1	3489.90	3495.10	2418.09	4.90	3.92	2.20	11.58	10.26	2118.31
69 NON-FINANCIALS(637)	2761.28	+0.3	2752.65	2756.20	2133.30	2.84	2.42	1.97	22.36	17.41	2236.30
70 FINANCIALS(108)	5750.03	—	5747.70	5806.28	3709.74	2.77	2.28	2.33	18.37	68.56	2854.06
71 Banks, Retail(12)	8370.87	+0.3	8347.18	8444.23	5364.97	2.81	2.25	2.29	19.38	116.92	2930.86
73 Insurance(17)	2736.46	-0.8	2757.29	2747.70	1634.71	3.10	2.81	2.92	13.83	35.32	2252.34
74 Life Assurance(6)	7334.16	-1.0	7410.36	7520.22	4449.26	2.66	2.21	2.57	18.95	64.23	3257.04
77 Other Financial(25)	4754.47	+0.5	4730.68	4785.32	3071.99	2.29	1.87	2.20	24.84	31.35	2882.29
79 Property(46)	2381.93	+0.6	2368.95	2381.15	1852.92	2.72	2.25	1.44	31.87	7.56	1552.55
80 INVESTMENT TRUSTS(118)	3917.77	+0.2	3909.53	3941.12	3214.32	2.01	1.62	1.18	52.65	18.38	1422.16
89 FTSE All-Share(864)	2781.66	+0.2	2774.99	2785.44	2067.37	2.80	2.36	2.04	21.86	21.40	2510.63
105 FTSE All-Share ex IT(746)	2788.57	+0.2	2781.85	2791.97	-	2.82	2.38	2.06	21.49	21.71	1294.84
Information Technology	1475.03	-0.2	1477.90	1479.53	-	0.58	0.46	3.36	63.96	1.70	1476.99
FTSE Fledgling	1410.60	-0.2	1413.40	1415.27	1285.74	3.12	2.52	1.40	28.59	6.97	1553.48
FTSE Fledgling ex IT	1430.40	-0.3	1434.17	1435.41	1307.04	3.48	2.82	1.45	24.83	7.77	1580.64
FTSE AIM	1059.1	-0.1	1060.0	1061.3	-	1.14	0.90	0.56	80.00†	2.60	977.45

Hourly movements

	Open	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.10	High/day	Low/day
FTSE 100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FTSE 250	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FTSE 350	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FTSE SmallCap	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FTSE All-Share	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

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FTSE INTERNATIONAL

TRADING VOLUME

Major Stocks yesterday

[illegible]

هكذا من الأصل

Highs & Lows shown on a 52 week basis

WORLD STOCK MARKETS

EUROPE

AUSTRIA (Mar 31 / Sch)

BELGIUM/LUXEMBOURG (Mar 31 / Frs.)

CZECH REP (Mar 31 / Koruna)

DENMARK (Mar 31 / Kr)

FINLAND (Mar 31 / Mks)

FRANCE (Mar 31 / Frs.)

GERMANY (Mar 31 / Dm.)

GREECE (Mar 31 / Drachma)

ITALY (Mar 31 / Lira)

NETHERLANDS (Mar 31 / Fl.)

NORWAY (Mar 31 / Kroner)

POLAND (Mar 31 / Zloty)

PORTUGAL (Mar 31 / Escudo)

SPAIN (Mar 31 / Pts.)

SWEDEN (Mar 31 / Kronor)

SWITZERLAND (Mar 31 / Frs.)

TURKEY (Mar 31 / TK Lira)

PACIFIC

JAPAN (Mar 31 / Yen)

AUSTRALIA (Mar 31 / AustS)

HONG KONG (Mar 31 / H.K.$)

INDONESIA (Mar 30 / Rupiah)

MALAYSIA (Mar 31 / MYR)

NEW ZEALAND (Mar 31 / NZ $)

SINGAPORE (Mar 31 / S$)

SOUTH KOREA (Mar 31 / Won)

TAIWAN (Mar 31 / TW $)

THAILAND (Mar 31 / Baht)

AFRICA

SOUTH AFRICA (Mar 31 / Rand)

AMERICAS

CANADA

TORONTO (Mar 31 / Can $) 2:45 pm

MONTREAL (Mar 31 / Can $) 2:45 pm

MEXICO (Mar 31 / Peso) 11.30pm

FT/S&P ACTUARIES WORLD INDICES

The FT/S&P Actuaries World Indices are owned by FTSE International Limited, Goldman, Sachs & Co. and Standard & Poor's. The indices are compiled by FTSE International and Standard & Poor's in conjunction with the Faculty of Actuaries and the Institute of Actuaries. NatWest Securities Ltd. was a co-founder of the indices.

NATIONAL AND REGIONAL MARKETS Figures in parentheses show number of lines of stock	MONDAY MARCH 30 1998 US Dollar Index	Day's Change %	Pound Sterling Index	Yen Index	DM Index	Local Currency Index	Local % chg on day	Gross Div. Yield	FRIDAY MARCH 27 1998 US Dollar Index	Pound Sterling Index	Yen Index	DM Index	Local Currency Index	DOLLAR INDEX 52 week High	52 week Low	Year ago (approx)
Australia (73)	211.63	-2.4	187.06	176.77	202.95	212.32	-0.9	3.66	215.84	191.02	178.64	206.05	214.16	243.87	190.26	220.64
Austria (23)	218.73	-1.1	193.34	182.70	209.78	209.80	-0.2	1.56	221.21	194.88	182.25	210.22	210.06	221.21	175.14	186.55
Belgium (26)	305.77	-1.3	270.28	255.40	293.23	287.00	-0.4	2.46	309.78	272.90	255.22	294.39	288.22	316.38	227.73	237.99
Brazil (30)	257.90	-1.2	227.96	215.42	247.32	539.38	-1.2	1.76	260.97	229.91	215.01	248.00	545.75	322.44	184.94	236.93
Canada (130)	243.80	-1.4	215.50	203.64	233.80	251.06	-0.9	1.60	247.29	217.85	203.73	235.00	253.29	247.29	178.27	188.28
Denmark (34)	507.10	-0.6	448.23	423.57	486.30	485.03	0.3	1.24	510.36	449.62	420.48	485.02	483.73	513.41	348.27	367.01
Finland (28)	366.28	-1.5	323.76	305.95	351.26	430.33	-0.6	2.10	372.03	327.74	306.50	353.54	433.01	376.27	243.25	258.47
France (79)	291.69	-1.1	257.83	243.64	279.73	282.86	-0.2	2.04	294.94	259.83	242.99	280.28	283.49	295.53	209.81	225.57
Germany (58)	264.15	-2.2	233.49	220.64	253.32	253.32	-1.3	1.28	270.11	237.95	222.53	256.68	256.68	271.10	193.39	206.68
Hong Kong, China (66)	351.54	-1.9	310.73	293.63	337.12	349.65	-1.9	4.53	358.38	315.72	295.26	340.57	356.47	580.03	262.93	455.85
Indonesia (27)	58.05	-2.6	51.31	48.49	55.67	309.81	0.3	2.17	59.58	52.49	49.08	56.62	308.84	254.90	27.57	232.54
Ireland (16)	519.13	-0.9	458.86	433.61	497.83	536.97	-0.1	1.85	523.86	461.50	431.59	497.83	537.22	525.09	322.44	331.13
Italy (54)	161.49	0.3	142.74	134.89	154.87	219.35	1.2	1.13	160.94	141.78	132.60	152.94	216.74	162.46	84.48	85.55
Japan (480)	97.61	-2.7	86.28	81.53	93.61	81.53	-1.4	0.97	100.34	88.39	82.66	95.35	82.66	141.12	88.52	113.79
Malaysia (107)	218.22	-2.6	192.89	182.27	209.27	305.50	-0.9	2.25	223.96	197.29	184.51	212.83	308.36	619.55	113.56	619.55
Mexico (29)	1669.42	-0.4	1475.62	1394.42	1600.94	15580.40	-0.1	1.45	1675.95	1476.42	1380.75	1592.65	15591.82	1901.98	1328.20	1368.68
Netherlands (19)	475.45	-1.9	420.26	397.13	455.95	451.17	-1.1	2.03	484.91	427.18	399.50	460.81	456.05	484.91	330.32	351.63
New Zealand (14)	73.92	-3.3	65.34	61.74	70.89	70.80	-2.1	4.61	76.46	67.36	62.99	72.66	72.33	98.47	71.49	84.81
Norway (38)	333.43	-0.6	294.72	278.51	319.75	343.01	0.0	1.82	335.29	295.37	276.23	318.62	342.95	374.64	281.62	312.14
Philippines (22)	105.42	-0.6	93.18	88.05	101.10	198.22	-0.6	1.05	106.03	93.41	87.36	100.76	197.37	196.90	57.54	195.24
Singapore (42)	237.50	-2.3	209.93	198.38	227.76	175.94	-1.1	1.76	243.04	214.11	200.23	230.96	177.91	402.07	144.01	389.42
South Africa (43)	302.26	-0.5	267.17	252.47	289.86	331.35	0.3	2.65	303.68	267.53	250.19	288.59	330.25	365.52	227.68	360.58
Spain (37)	373.53	-0.9	330.17	312.00	358.21	442.97	-0.1	1.63	377.09	332.20	310.67	359.35	443.30	380.44	210.35	218.55
Sweden (49)	562.26	-1.3	496.99	469.64	539.20	659.86	-0.7	1.77	569.52	501.71	469.20	541.21	664.36	571.99	405.00	444.47
Switzerland (31)	393.39	-1.2	347.72	328.59	377.25	370.12	0.1	1.05	398.18	350.78	328.04	378.39	369.91	398.18	252.68	260.80
Thailand (39)	30.09	-5.9	26.59	25.13	28.85	44.90	-4.4	6.69	31.98	28.17	26.34	30.39	46.97	84.87	13.10	80.45
United Kingdom (205)	388.30	-0.7	343.23	324.34	372.37	343.23	-0.4	2.86	391.11	344.54	322.22	371.67	344.54	391.93	275.44	281.66
USA (639)	446.65	-0.2	394.80	373.07	428.33	446.65	-0.2	1.42	447.44	394.18	368.63	425.21	447.44	451.29	299.79	314.29
Americas (818)	405.25	-0.2	358.21	338.50	388.63	342.19	-0.2	1.43	406.25	357.89	334.70	386.06	342.94	409.30	274.59	287.65
Europe (696)	344.92	-1.1	304.86	288.10	330.77	330.29	-0.4	2.03	348.73	307.22	287.31	321.40	331.56	349.41	238.44	247.92
Nordic (149)	489.92	-1.1	433.04	409.21	469.82	506.26	-0.5	1.74	495.63	436.62	408.33	471.00	508.58	497.77	355.77	381.63
Pacific Basin (870)	109.07	-2.6	96.41	91.10	104.60	91.54	-1.4	1.63	111.98	98.65	92.26	106.42	92.81	158.99	95.32	133.76
Euro-Pacific (1566)	207.39	-1.8	183.31	173.23	198.88	181.39	-0.7	1.91	210.68	185.60	173.58	200.21	182.64	210.87	172.03	181.34
North America (759)	433.80	-0.2	383.44	362.34	416.01	433.52	-0.2	1.43	434.82	383.06	358.23	413.21	434.44	438.12	292.34	306.58
Europe Ex. UK (487)	313.12	-1.3	276.77	261.54	300.27	313.97	-0.4	1.58	317.23	279.47	261.36	301.47	315.17	318.12	213.38	223.96
Pacific Ex. Japan (390)	209.99	-2.2	185.62	175.40	201.38	208.36	-1.4	3.74	214.82	183.24	176.98	204.14	211.22	318.98	161.31	300.78
World Ex. US (1788)	211.49	-1.5	186.94	176.65	202.82	188.74	-0.7	1.90	214.77	189.20	176.94	204.10	190.04	214.82	175.30	184.70
World Ex. UK (2218)	277.74	-0.9	245.50	231.99	266.35	255.12	-0.4	1.50	280.14	246.79	230.80	266.22	256.23	281.08	211.16	220.58
World Ex. Japan (1947)	381.41	-0.6	337.13	318.58	365.76	376.20	-0.3	1.73	383.77	338.08	316.19	364.70	377.38	385.26	271.90	282.97
The World Index (2427)	287.07	-0.8	253.75	239.78	275.30	263.09	-0.4	1.65	289.51	255.04	238.62	275.12	264.21	290.27	216.61	225.78

Emerging markets: IFC investable indices

Dollar terms

Mar 30 Market		Day's chg %	% Chg since 31/12/97
Latin America			
Argentina	1,134.48	+0.3	+1.7
Brazil	528.12	-1.1	+7.8
Chile	635.20	-0.1	+1.2
Colombia	621.35	+0.3	-24.7
Mexico	721.07	-0.3	-8.5
Peru	209.83	+2.2	-5.2
Venezuela	774.58	-1.5	-16.3
East Asia			
China	51.09	-1.4	-7.8
Korea	38.10	-4.7	+58.6
Philippines	150.43	-0.8	+38.4
Taiwan, China	156.59	-1.1	+11.0
South Asia			
India	87.70	-0.3	+6.2
Indonesia	30.31	-2.8	-18.0
Malaysia	121.51	-2.7	+33.3
Pakistan	213.87	-0.5	-13.8
Sri Lanka	123.06	+0.3	+5.8
Thailand	79.86	-2.3	+88.1
Europe/Mideast/Africa			
Czech Rep	53.09	-0.5	+8.8
Egypt	90.88	-0.8	-2.5
Greece	417.72	+1.1	+28.9
Hungary	341.81	-1.9	+8.6
Israel	122.38	-0.4	+8.6
Jordan	206.56	-1.0	-1.8
Morocco	141.41	-1.1	+8.5
Poland	749.10	-0.1	+25.5
Portugal	295.13	-1.9	+38.8
Russia	125.60	-1.8	-15.5
S Africa	212.00	-0.7	+17.9
Slovakia	78.39	+0.4	-30.9
Turkey	240.71	-3.3	-22.9
Zimbabwe	293.86	+0.3	+16.8
Regions			
Composite	382.32	-1.8	+6.6
Latin America	654.25	-0.4	-2.0
Asia	129.23	-2.0	+19.9
EMEA	158.24	-0.9	+7.8

Base date: Dec 1988=100 except those noted which are: (1)Feb 1 1991; (2)Dec 31 1992; (3)Jan 5 1990; (4)Dec 31 1992; (5)Jan 3 1992; (6)Jan 4 1991; (7)Nov 6 1992; (8)Sep 28 1990; (9)Mar 1 1991; (10) Dec 31 1992; (11)Dec 31 1993; (12)Dec 31 1992; (13)Dec 31 1992; (14)Dec 31 1992; (15)Aug 2 1993; (16) July 2 1993

Latest indices were unavailable for this edition.

1:15 pm March 31

NEW YORK STOCK EXCHANGE PRICES

1997/98 High	Low	Stock	Div	Yld %	P/E	Vol 100s	High	Low	Close Quote	Chng Prev. Close
		- A -								
32⅝	16¼	AAR	0.32	1.2	31	151	27⅝	27⅜	27⅝	-⅛
58½	33⅛	AMP	1.08	2.5	21	3075	44¼	43⅝	43⅝	+1⅛
147½	78¼	AMR			11	2029	142½	140⅝	142⅞	+3¾
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		- X - Y - Z -								
55	34⅛	York Int x	0.48	1.1	41	711	[illegible]	[illegible]	[illegible]	[illegible]
13⅞	4	Zapata	0.28	2.1	33	252	[illegible]	[illegible]	[illegible]	[illegible]
13⅛	5⅛	ZeniNet				460	[illegible]	[illegible]	[illegible]	[illegible]
39¾	24½	Zenith Nat	1.00	3.4	16	180	u29⅞	29½	29¾	[illegible]
8⅝	7⅛	Zenix Inc	0.73	9.8		74	7⅜	7½	7½	[illegible]
32⅞	17¾	Zero	0.12	0.4	17	29	28½	28⅜	28⅜	[illegible]
14	10½	ZweigFd	1.32	9.5		353	13⅝	13⅝	13⅝	[illegible]
9¾	8	Zweig Tot	0.84	8.8		180	9⅞	9½	9⅝	

Price data supplied by Extel, part of FT Information.

Yearly highs and lows for NYSE reflect the period from Jan.1 1997. Unless otherwise noted, rates of dividend are annual disbursements based on the latest declaration. Sales figures are unofficial.
d-new yearly low. P/E price-earnings ratio. s/s-sales. u-new yearly high. x-ex-dividend or ex-rights. yld-yield. z-sales in full.
‡ Dealings suspended.

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GLOBAL EQUITY MARKETS

US INDICES

Dow Jones	Mar 30	Mar 27	Mar 26	1997/98 High	1997/98 Low	Since compilation High	Since compilation Low
Industrials	8782.12	8796.08	8846.89	8906.43 (20/3/98)	6391.69 (11/4/97)	8906.43 (20/3/98)	41.22 (8/7/32)
Home Bonds	105.28	105.25	105.23	105.48 (15/1/98)	101.09 (14/4/97)	105.48 (15/1/98)	54.99 (1/10/81)
Transport	3499.33	3512.32	3512.51	3636.81 (17/3/98)	2222.07 (2/1/97)	3636.81 (17/3/98)	13.23 (8/7/32)
Utilities	281.90	282.64	284.89	287.80 (24/3/98)	209.47 (25/4/97)	287.80 (24/3/98)	16.53 (8/7/32)

DJ Ind. Day's high 8877.04 (8941.31) Low 8701.66 (8741.77) (Theoretical♣)
Day's high 8827.90 (8895.73) Low 8749.74 (8771.86) (Actual♣)

Standard and Poors	Mar 30	Mar 27	Mar 26	1997/98 High	1997/98 Low	Since compilation High	Since compilation Low
Composite‡	1093.55†	1095.44	1100.80	1105.65 (24/3/98)	737.01 (2/1/97)	1105.65 (24/3/98)	4.40 (1/6/32)
Industrials¥	1274.91†	1273.93	1280.31	1283.18 (24/3/98)	865.42 (11/4/97)	1283.18 (24/3/98)	3.52 (30/6/32)
Financial¥	131.11	132.87	133.40	135.52 (20/3/98)	80.75 (2/1/97)	135.52 (20/3/98)	7.13 (4/9/74)
Others							
NYSE Comp.	568.89	569.80	572.21	574.98 (24/3/98)	389.47 (11/4/97)	574.98 (24/3/98)	4.84 (25/4/42)
Amex Comp	738.45	738.33	739.39	739.39 (26/3/98)	541.20 (28/4/97)	739.39 (26/3/98)	524.20 (16/7/96)
NASDAQ Cmp	1818.70	1823.62	1828.54	1828.54 (26/3/98)	1201.00 (2/4/97)	1828.54 (26/3/98)	54.87 (3/10/74)
Russell 2000	476.24	477.15	477.81	477.81 (26/3/98)	335.85 (25/4/97)	477.81 (26/3/98)	123.36 (7/12/93)

RATIOS

	Mar 27	Mar 20	Mar 13	Year ago
Dow Jones Ind. Div. Yield	1.59	1.57	1.63	1.91
	Mar 25	Mar 18	Mar 11	Year ago
S & P Ind. Div. yield	1.32	1.35	1.38	1.77
S & P Ind. P/E ratio	30.37	29.80	29.26	22.54

US DATA

TRADING ACTIVITY

● Volume (million)	Mar 30	Mar 27	Mar 26
NYSE	497.540	608.770	608.770
Amex	24.976	32.242	29.785
NASDAQ	681.378	744.729	731.216

NYSE	Mar 30	Mar 27	Mar 26
Issues Traded	3,481	3,468	3,484
Rises	1,231	1,315	1,465
Falls	1,722	1,573	1,514
Unchanged	528	580	505
New Highs	111	148	136
New Lows	32	27	28

NYSE TRADING ACTIVITY — Volume : 497,548,000

ACTIVE STOCKS

Monday	Stocks traded	Close price	Day's change
AdvMic	6,450,000	26⅜	+1⅞
Compaq	5,995,000	26¼	-⅝
Lilly	5,844,900	58¼	-2¼
Pfizer	5,378,200	97⅞	+2⅛
PhMorr	4,924,000	43¾	+⅛
Coca C	4,812,200	78¼	+3
Wilmac	4,744,300	31⅝	+⅛
McDold	4,092,100	59¼	+1⅛
GenElec	3,370,000	85¼	+1⅝
StwdHR	2,778,300	53¼	

BIGGEST MOVERS

Monday	Close price	Day's change	Day's chge %
Ups			
Ennis Busn	11⅝	+1¼	+12.3
Forcnr	23¾	+2¼	+10.7
AdvMic	26⅜	+1⅞	+7.6
SunGard	35⅝	+2¼	+6.7
Downs			
Shelby Wil	14⅜	-1¼	-8.1
WinnDx	46⅜	-3⅝	-7.3
RMI Tt	22⅝	-1⅜	-5.8
Irish Inve	21⅞	-1¼	-5.2

NASDAQ TRADING ACTIVITY — Volume :681,376,000

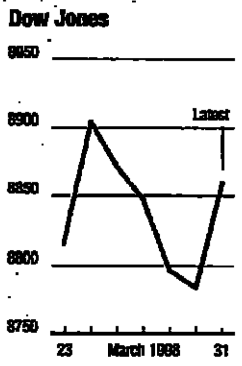
ACTIVE STOCKS

Monday	Stocks traded	Close price	Day's change
Intel	10,926,700	77¼	-1⅛
Micsft	6,750,700	88	+⅛
Centocor	6,680,700	45⅞	+2⅛
Oracle	6,568,500	31¼	+¼
CiscoSys	6,380,400	67¼	-1⅞
AscendCom	6,356,700	38	+¼
DellCmp	6,099,000	67⅛	-⅛
Adaptec	5,965,800	20¼	-⅜
SanMic	5,674,800	41⅝	-⅛
FORESy	5,175,800	18⅛	+1½

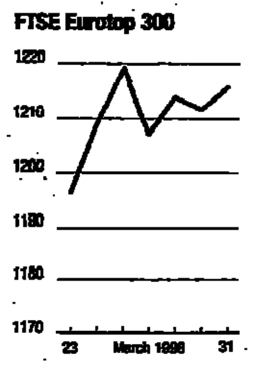
BIGGEST MOVERS

Monday	Close price	Day's change	Day's chge %
Ups			
Savtek	25	+3¾	+17.5
Vivus	12⅛	+1¾	+16.2
CrboCrmcs	34	+4	+13.3
JDA Sftw	52¼	+6⅛	+13.3
Downs			
Prycor	22⅛	-2⅞	-11.6
WFS Fin	10⅝	-1⅜	-11.2
Davox	29⅝	-3⅛	-9.5
APACTel	12⅞	-1⅛	-9.2

Dow Jones



FTSE Eurotop 300



JAPAN

	Mar 31	Mar 30	Mar 27	1997/98 High	1997/98 Low	Since compilation High	Since compilation Low
Nikkei 225	16527.17	16263.04	16739.26	20681.1	14664.4	38915.9	85.25

Day's high: 16584.62. Day's low: 16178.22.

TOKYO TRADING ACTIVITY — Volume : 682,000,000

ACTIVE STOCKS

Tuesday	Stocks traded	Close price	Day's change
Np Steel Cp	29,081,000	214	+1
Showa Line	19,272,000	55	
Sakura Bk	15,920,000	473	+7
LTCB	13,569,000	232	-37
NKK Corp	13,101,000	120	-12
Daiichi Kgy	10,068,000	970	-30
Stomo Mtl Ind	9,993,000	221	+1
Mbishi Hvy	9,526,000	507	-5
Fujita Cp	9,080,000	107	-14
BK Tk-Mbishi	8,847,000	1920	-40

BIGGEST MOVERS

Tuesday	Close price	Day's change	Day's chge %
Ups			
Niigata Chuo	305	+37	+13.8
Kokuyo	2430	+280	+13
Np Metal Ind	159	+18	+12.8
Np Seikan	210	+20	+10.5
Downs			
Nippon Lace	86	-16	-15.7
Daiichi Katei	80	-13	-14
LTCB	232	-37	-13.8
Nakano Cp	316	-50	-13.7

FRANCE

	Mar 31	Mar 30	Mar 27	1997/98 High	1997/98 Low	Since compilation High	Since compilation Low
CAC 40	3875.81	3800.23	3810.23	3875.81	2256.87	3875.81	984.51

Day's high: 3888.06. Day's low: 3811.71.

PARIS TRADING ACTIVITY — Volume : 597,523,230

ACTIVE STOCKS

Tuesday	Stocks traded	Close price	Day's change
France Tel	1,713,986	326.8	+15.5
Rhone-Poul	1,419,161	314.9	+7.2
Elf Aquit	1,343,344	812.0	+11.0
AXA-UAP	1,055,217	638.0	+19.0
Alcatel	1,027,869	1183.0	+47.0
Usinor	1,012,137	103.6	+2.0
Total B	740,569	744.0	-11.0
Cie Fin Parib	620,185	627.0	-3.0
Lagardere	607,679	250.0	+8.7
Schneider	599,876	477.0	+21.1

BIGGEST MOVERS

Tuesday	Close price	Day's change	Day's chge %
Ups			
Flammarion	268.0	+47.5	+21.5
Guerbet	252.1	+23.2	+10.1
ICBT Group	238.0	+21.7	+10.0
Marocaine	110.0	+8.9	+8.8
Downs			
Grp Pasquier	33.2	-5.2	-13.5
Grnd Bazar	251.3	-28.7	-10.3
Cobra	34.4	-3.6	-9.5
Petit Bateau	28.9	-3.0	-9.4

GERMANY

	Mar 31	Mar 30	Mar 27	1997/98 High	1997/98 Low	Since compilation High	Since compilation Low
DAX	5102.35	5009.76	5083.16	5102.35	2848.77	5102.35	931.18

Day's high: 5104.58. Day's low: 5070.81.

FRANKFURT TRADING ACTIVITY — Volume : 18,120,733

ACTIVE STOCKS

Tuesday	Stocks traded	Close price	Day's change
Deutsche Tel	934,012	40.15	-0.25
BASF	770,840	82.25	+3.25
Commerzbnk	731,356	68.8	+0.6
Deutsche Bnk	698,194	139.15	+4.8
Lufthansa	622,487	38.85	+1.55
Hoescht	571,760	72.45	+2.1
Bayer	551,689	84.6	+2.01
Daimler-Benz	494,828	170.0	+0.3
VEBA	487,840	131.2	+2.4
Siemens	480,533	123.8	+1.4

BIGGEST MOVERS

Tuesday	Close price	Day's change	Day's chge %
Ups			
DLW	234.2	+18.2	+8.4
Mobil Com	1344.0	+100.0	+8.0
Vossloh	118.5	+7.5	+6.8
Zanders Fein	160.0	+10.0	+6.7
Downs			
Wayss & Frey	111.0	-29.5	-21.0
Webber Gerry	44.4	-2.6	-5.5
Bien-Haus	500.0	-28.0	-5.3
Thyssen Ind	405.0	-22.5	-5.3

UK

	Mar 31	Mar 30	Mar 27	1997/98 High	1997/98 Low	Since compilation High	Since compilation Low
FTSE 100	5932.2	5911.9	5930.3	5997.9	4056.6	5997.9	986.9

Day's high: 5932.5. Day's low: 5875.4.

LONDON TRADING ACTIVITY — Volume : 996,500,000

ACTIVE STOCKS

Tuesday	Stocks traded	Close price	Day's change
Edinbrgh Drgn	28,607,140	57½	+¼
Centrica	27,879,880	112½	-1
Smith & Nphw	23,234,430	188	-12
Shell T&T	17,091,620	439	-1½
Pentex Engy	15,914,320	13½	+½
BTR	12,050,770	196	-6¼
MFI Furniture	11,397,190	82½	+½
Woolwich	10,573,390	353	-10½
ASDA Grp	10,327,460	202¼	+7
Orange	10,200,120	380½	+1

BIGGEST MOVERS

Tuesday	Close price	Day's change	Day's chge %
Ups			
Calver Hldg	37½	+12	+47.1
Forward Tech	15¼	+4½	+41.9
Arctic Hdg	85	+17½	+25.9
Chiroscience	323½	+60	+22.8
Downs			
Telemetrix	45½	-9½	-17.3
Diamond Grp	17½	-3½	-16.7
Tanns (J)	19	-3½	-15.6
Liberty	280	-42½	-13.2

INDEX FUTURES

S&P 500	Open	Latest	Change	High	Low	Est. vol.	Open int.
Jun	1105.50	1116.50	+10.80	1117.70	1104.00	73,818	363,935
Sep	1120.50	1120.50	+3.00	1129.30	1120.50	201	7,168

Nikkei 225	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Jun	16280.0	16300.0	+170.0	16580.0	16200.0	46,443	199,457
Sep	16300	16400.0	-480.0	16400.0	16300.0	4	13,187

Open interest figures for previous day.

CAC-40 (200 x index)	Open	Sett Price	Change	High	Low	Est. vol.	Open int.
Mar	3830.0	3835.9	+33.9	3863.0	3815.0	25,582	22,162
Apr	3830.0	3882.0	+78.0	3885.0	3814.0	703	33,300
DAX							
Jun	5115.0	5111.0	+21.5	5139.0	5063.0	19,391	109,996
Sep	5170.0	5156.5	+34.0	5170.0	5121.5	25	16,766

OMX	Open	Sett Price	Change	High	Low	Est. vol.	Open int.
Mar	2914.75	2929.00	+15.00	2932.00	2910.00	1,338	9,848
Apr	2914.00	2887.00	-9.00	2919.00	2872.00	8,400	25,043
SOFFEX							
Apr	7588.0	7591.5	+34.5	7619.9	7568.0	3,535	22,113
May	7572.0	7557.0	+34.0	7572.0	7572.0	204	479

WORLD MARKETS AT A GLANCE

Country	Index	Mar 31	Mar 30	Mar 27	1997/98 High	1997/98 Low	✣ Yield	✣ P/E
Argentina	General	23536.08	23457.63	23424.90	25771.70 22/10/97	18237.40 2/1/97	2.79	20
Australia	All Ordinaries	2744.2	2741.0	2762.7	2792.00 24/3/98	2299.20 28/10/97	3.34	18.7
	All Mining	642.7	641.2	634.3	887.10 24/2/97	541.10 27/11/97		
Falls beat rises by 10 to 9 in dull trading worth A$563m. Westpac and Rio Tinto were the main gainers.								
Austria	Credit Aktien	(a)	527.51	506.55	528.85 24/3/98	374.40 9/1/97	1.69	15.1
	ATX Index	1498.20	1506.32	1509.82	1509.82 27/3/98	1130.22 9/1/97		
The ATX index dipped below 1,500 in an expected correction after last week's 8 per cent gain.								
Belgium	BEL20	2985.52	2977.00	2983.98	3041.59 25/3/98	1871.85 2/1/97	1.93	19.7
Shares closed slightly higher with a stronger dollar outweighing profit-taking.								
Brazil	Bovespa	11899.0	11750.0	11900.0	13617.00 8/7/97	6955.58 2/1/97	na	na
Canada	TSE 100♦	462.20	460.18	464.20	464.20 27/3/98	342.12 11/4/97	1.5	22.4
	Metals Mnls♦	4140.38	4126.14	4202.47	5891.75 10/3/97	3442.35 12/1/98		
	Composite♦	7581.20	7567.91	7622.53	7622.53 30/3/98	5679.30 14/4/97		
	Portfolio§§	3854.31	3835.07	3874.99	3874.99 27/3/98	2846.02 11/4/97		
Stocks rebounded from Monday's loss to open higher on the back of strong banking stocks.								
Chile	IGPA Gen¥	4826.30	4819.29	4829.12	5866.71 4/7/97	4243.47 27/1/98	2.6	16.1
China	Shanghai B	53.98	54.50	54.01	98.21 20/3/98	40.89 12/1/98	0.82	44.5
	Shenzhen B	93.10	94.94	94.87	184.20 6/5/97	77.98 12/1/98		
Domestic selling weighed on Shanghai B shares. Zhejiang Power was unchanged after reporting its first set of results.								
Colombia	IBB	(d)	1181.16	1179.7	1633.72 16/10/97	844.41 2/1/97	na	na
Czech Republic	PX 50	505.0	509.1	512.1	629.00 25/2/97	452.40 4/2/98	na	na
Market slipped in low volumes with SPT Telecom among sharpest fallers.								
Denmark	CopenhagenSE	766.50	762.79	760.76	766.50 29/3/98	470.14 2/1/97	1.2	23.8
Shares finished at a record closing level, fuelled by solid gains for selected stocks, like Novo Nordisk, in mixed market								
Egypt	Cairo SE Gen	388.50	388.52	(c)	--	--	na	na
Market ended lower on selling as Eid holiday approaches.								
Finland	HEX General	4355.61	4342.71	4362.88	4378.14 19/3/98	2483.28 2/1/97	2.3	15.4
Shares closed mixed with trade hesitant ahead of the US Fed meeting on interest rates. Nokia rose but forestries slipped.								
France	SBF 250	2482.03	2444.04	2449.19	2482.03 29/3/98	1533.19 2/1/97	2.11	21.4
	CAC 40	3875.81	3800.23	3810.23	3875.81 31/3/98	2256.97 2/1/97		
Shares rallied to fresh high after mild correction on Monday, boosted by higher dollar, Wall St gains and Tokyo rebound.								
Germany	FAZ Aktien	1647.48	1634.26	1637.73	1648.34 25/3/98	896.21 2/1/97	1.31	22.4
	Commerzbank	4858.90	4822.30	4833.30	4859.10 25/3/98	2875.90 2/1/97		
	DAX‡	5102.35	5009.76	5083.16	5102.35 31/3/98	2848.77 2/1/97		
Market firmed on an upbeat start on Wall Street. BMW and Volkswagen, rivals to take over Rolls-Royce, both fell sharply.								
Greece	Athens SE	2005.82	2083.89	2083.32	2083.89 30/3/98	884.54 2/1/97	1.82	21.6
	FTSE/ASE 20	1186.81	1225.25	1214.94	1225.25 30/3/98	765.18 29/1/98		
Equities nursed losses as foreign buyers took day off and local funds unloaded stock in a correction after extended rally								
Hong Kong	Hang Seng	11518.68	11503.78	11735.38	16673.30 7/8/97	8121.06 12/1/98	3.56	11.2
	HSCC Red Chip	1653.79	1682.96	1701.92	4119.35 27/8/97	984.50 12/1/98		
Trading was subdued as investors looked for guidance from overseas markets.								
Hungary	Bux	8656.24	8612.25	8657.83	8786.63 20/3/98	4291.30 6/1/97	na	na
India	BSE Sens.	3892.75	3897.98	3908.60	4649.02 5/8/97	3209.55 28/1/98		
	Crisil 500	715.54	718.65	718.09	843.28 5/8/97	594.38 29/1/98	na	na
Shares ended lower with speculators booking profits as fund buying to prop up net asset values failed to materialise.								
Indonesia	Jakarta Comp.	(c)	541.42†	542.10	740.83 8/7/97	339.53 15/12/97	1.9	17.9
Closed for fiscal year-end.								
Ireland	ISEQ Overall	5268.59	5313.74†	5307.96	5326.28 25/3/98	2725.07 2/1/97	1.77	18.5
Israel	Tel Aviv 100	302.79	300.11	(c)	311.76 6/8/97	214.15 2/1/97	na	na
Unexpectedly strong earnings by Bank Leumi boosted bank stocks and carried prices higher across the board.								
Italy	BCI Comit 30	349.58	345.70	342.80	349.58 29/3/98	155.74 2/1/97	1.25	31.2
	Banca Com Ital	1537.16	1512.33	1509.86	1537.16 29/3/98	660.42 2/1/97		
	Mibtel General	24583.0	24303.0	23987.0	24583.00 29/3/98	10498.00 2/1/97		
Shares closed near the day's highs, lifted by strong company earnings. Banks rose on Credito Italiano's good results.								
Japan	Nikkei 225	16527.17	16263.04	16739.26	20681.10 16/6/97	14664.40 12/1/98	0.91	41.7
	Nikkei 300	247.28	244.30	247.53	303.71 28/7/97	224.85 12/1/98		
	Topix	1251.70	1241.27	1258.55	1560.28 26/6/97	1120.61 12/1/98		
	2nd Section	1339.15	1345.37	1345.88	1848.25 30/6/97	1168.55 24/12/97		
Late buying, said to be by public funds, drove Nikkei higher on last day of fiscal year. Volume lifted to 682m shares.								
Jordan	Amman SE	165.77	166.00	(c)	--	--	na	na
Bourse maintained downward trend amid persistent worries over government plans to regulate savings funds.								
Malaysia	KLSE Comp.	719.52	722.95	727.62	1271.57 25/2/97	477.57 12/1/98	2.34	14.6
Drifted lower in dull trading with investors awaiting a rush of corporate results. Turnover slipped to 140m shares.								
Mexico	IPC	5060.28	5039.46	5043.09	5368.48 21/10/97	3359.46 2/1/97	1.16	13.7
Stocks opened higher as a result of month-end portfolio buying and hopes that domestic interest rates will drop.								
Morocco	CASA	724.05	721.46	721.05	724.05 29/3/98	451.99 3/1/97	na	na
Netherlands	CBS TtlRtnGen	1306.8	1310.2	1321.9	1321.90 27/3/98	730.80 2/1/97	1.75	23.2
	CBS All Shr	749.2	750.2	757.0	757.00 27/3/98	429.00 2/1/97		
Some heavyweights fell back in late profit-taking in thin trade as investors hung back ahead of US interest rate decision								
New Zealand	Cap. 40	2288.27	2303.12	2340.91	2635.48 22/10/97	2182.01 28/10/97	3.95	18.3
High interest rates and nervous NZ dollar continued to overshadow shares. Volume was a solid NZ$104m.								
Nigeria	SE All-Share	6298.5	6300.30	6320.78	--	--	na	na
Norway	Oslo SE Ind	2280.61	2303.70	2297.72	2303.70 30/3/98	1898.91 13/1/98	1.48	18.4
Bourse ended lower on doubts that Opec would carry out promised cuts in oil output.								
Pakistan	Karachi SE	1553.05	1564.60	1564.47	2087.98 22/10/97	1341.31 7/1/97	na	na
IMF's approval of $180m loan tranche inspired early rally before bomb blasts in Karachi sent shares to a lower close.								
Peru	Lima Gen	1706.89	1719.45	1696.52	2269.40 10/7/97	1429.70 2/1/97	na	na
Philippines	Manila Comp	2238.42	2273.80	2301.66	3447.88 3/2/97	1518.00 9/1/98	1.17	15.7
Weak regional currencies and fears of an interest rate rise in the US sent shares lower. Falls beat rises by 5 to 1.								
Poland	WIG	16884.0	17178.2	17209.8	18582.70 11/3/98	13228.80 12/1/98	1.07	13.8
Portugal	BVL 30	5532.63	5514.65	5543.03	5578.95 25/3/98	2165.57 2/1/97	0.87	42.7
	PSI 20	12832.51	12781.17	12864.65	12973.60 25/3/98	5152.34 2/1/97		
Russia	RTS	325.50	331.28	341.48	571.66 6/10/97	213.38 6/1/97	na	na
Stocks ended down in slack trade ahead of parliamentary vote on Friday on a new prime minister.								
Singapore	SES All-S'pore	419.14	426.93	431.19	573.03 17/2/97	324.92 12/1/98	2.05	18.9
	Straits Times	1629.18	1648.56	1653.93	2271.88 20/1/97	1073.47 12/1/98		
Broadly weaker with regional markets. Volume increased to 239m shares and declines overwhelmed advances by 5 to 2.								
Slovakia	SAX	138.91	138.27	137.80	208.84 21/3/97	135.46 26/3/98	na	na
Shares closed mixed in quiet trade but Nafta, the oil and gas storage company, rose 9.8 per cent.								
South Africa	JSE Gold	814.2¥	806.9¥	753.3	1588.10 27/2/97	578.10 5/12/97	2.3	16.4
	JSE Indl.	8849.8¥	8777.9¥	8724.1	9314.20 7/8/97	6715.10 12/1/98		
Market rose to seven-month peak on end-of-quarter buying. Top Tech surged on debut, closing 5 times up on issue price.								
South Korea	KoreaCmpEx**	481.04	482.33	503.08	792.29 17/6/97	350.68 12/12/97	2.13	3.3
Improvement in sovereign outlook to stable by Moody's encouraged early rise before local selling drove shares back down.								
Spain	Madrid SE	888.67	887.58	887.91	890.57 25/3/98	434.54 2/1/97	1.67	28
Gains in banks and utilities outweighed by decline in Telefonica as period of consolidation continued.								
Sri Lanka	CSE All Share	712.80	715.40	714.80	869.70 31/7/97	608.70 2/1/97	na	na
Crystallising of profits by companies at end of financial year pushed shares lower. Falls beat rises by 11 to 7.								
Sweden	AffarsvarldsGen	3549.2	3554.1	3574.5	3588.30 25/3/98	2378.50 2/1/97	1.47	25.4
Shares closed down but off lows in light turnover ahead of Fed decision on interest rates.								
Switzerland	SMI Index	7585.5	7536.3	7530.3	7585.50 29/3/98	3922.90 7/1/97	0.95	30.2
	SPI General	4716.84	4691.33	4687.27	4716.84 29/3/98	2508.22 6/1/97	na	na
Market at record closing high on back of a strong dollar and window-dressing at end of first quarter.								
Taiwan	WeightedPr.**	9091.16	9089.96	9095.83	10116.80 26/8/97	6844.75 6/1/97	1.08	24.7
Investors cautious after overnight falls in US and index finished flat on similar volumes of T$129bn.								
Thailand	Bangkok SET	459.11	465.09	469.85	858.97 22/1/97	339.17 12/1/98	2.34	30.3
New regulations which would require banks to raise capital sent financial shares down.								
Turkey	IMKB Nat 100	3359.06	3222.79	3313.76	3711.40 5/1/98	995.80 2/1/97	1.98	21.2
Shares closed higher in last-minute buying ahead of long public holiday next week.								
Venezuela	IBC	7713.45	7768.08	7855.10	10617.10 17/10/97	6061.99 12/3/97	na	na
Zimbabwe	ZSE Industrial	(a)	8289.50	8240.71	12082.00 5/8/97	6801.51 18/12/97	na	na
WORLD	FT/S&P World($)	(a)	287.07	289.51	289.27 25/3/98	218.61 14/4/97	na	na
	MS Capital Intl$	1065.9*	1061.4	1070.4	1077.30 25/3/98	794.50 14/4/97	na	na
CROSS-BORDER	DJ Stoxx 50	3229.29	3215.32	3221.62	3259.08 25/3/98	1823.55 2/1/97		
	DJ Euro Stx 50	3153.32	3137.03	3150.90	3209.33 23/3/98	1834.52 2/1/97		
	FTSE E300	1216.01	1212.72	1214.43	1217.94 25/3/98	874.86 28/10/97		
	FTSE E100	2805.7	2794.98	2800.44	2808.10 25/3/98	1582.69 2/1/97	na	na
	HSBC JC Drgn	(a)	268.76	274.97	434.83 6/8/97	188.25 12/1/98	na	na
	ING Barge Emrg	156.28	157.06	158.71	198.81 9/7/97	125.19 12/1/98	na	na

— Sat Mar 28: Taiwan Weighted Price closed . Korea Comp Ex 488.28. §§ Montreal. ♦ Toronto. (c) Closed. (a) Unavailable. ‡ XETRA-DAX after-hours index: Mar 31 5087.25 +27.38.† Correction. * Calculated at 15.00 GMT. ● Excluding bonds. ‡ Industrial, plus Utilities, Financial and Transportation. ♣ The DJ Ind. Index theoretical day's highs and lows are the averages of the highest and lowest prices reached during the day by each stock; whereas the actual day's highs and lows represent the highest and lowest values that the index has reached during the day. (The figures in brackets are previous day's). ¥ Subject to official recalculation. ✣ Yields and P/E ratios are based on Datastream Total Market Indices. ✣ Microsoft.

THE NASDAQ STOCK MARKET

2 pm March 31

Stock	Div.	P/E	Vol 100s	High	Low	Last	Chng
[illegible]							

THE NASDAQ STOCK MARKET

Stock	Div.	P/E	Vol 100s	High	Low	Last	Chng
[illegible]							

AMEX PRICES

1 pm March 31

Stock	Div.	P/E	Vol 100s	High	Low	Close	Chng
[illegible]							

EASDAQ

EASDAQ is a fully regulated independent pan European Stock Market focused on high growth companies with international aspirations. The shares of companies on the EASDAQ Stock Market can be bought and sold through EASDAQ Members

Company	Mid price	Change on day	Volume	High	Low
ActivCard	US$3.125		5000	8.125	2.25
ActivCard Rights	US$1	+0.125	17615	3	0.75
Algol♣	ITL23500		16900	23750	12450
Artwork Systems	US$9	-0.25	16300	11.125	5.875
Chemunex♣	FFr14.5	-1	23900	18	9
Cay Bwd Holding	US$8.8125	+0.3125	11172	10.3125	8.8125
Debonair Holdings	GBP2.45	-0.1	7500	7.15	1.7
Dr Solomon's	US$35.375	-0.375	7835	46.25	20.375
EDAP TMS	US$6.3125	-0.1875	300	8.125	5.625
ESAT Telecom	US$27.875	+0.375	2000	28.5	13.25
Espace Prod. Int.	FFr103.68	-0.07	2400	117	88.83
Esprit Telecom	US$17.625	+0.25	440	18.5	4.875
Global TeleSystems	US$47	-1.875	260	49.125	24.5
Gruppo Formula	ITL34550	+600	63205	37750	14250
Innogenetics	US$51.375	-0.75	137249	56.625	9.875
Integr. Surg. Syst.♣	DEM9.9	+0.3	1027	12.1	6.8
Lernout & Hauspie	US$89.25	+4.125	72033	93	35
Melexis	US$14.9375		95754	16.25	7.1875
Mercer Int'l♣	US$9.875	-0.125	0	12.875	8
NTL	US$42.125	-1	0	45.5	20.5
Opsion Int'l	US$38	+0.375	26270	42.25	10.375
PixTech♣	US$5.625		8595	5.625	2.125
Royal Olympic	US$16.625		620	16.625	13.625
Schoeller-Bleckmann♣	Sch1605	+30	11590	1692	900
Topcall Int'l♣	Sch12520	+453	5776	12650	3065
Turbodyne Technol.♣	US$4.59	-0.18	29450	6.25	2.1

Prices for 31/3/98. Please note that mid prices are now used to calculate highs and lows. Information about EASDAQ can be found on the Web site at HTTP://WWW.EASDAQ.be EASDAQ offices are located in Brussels (Tel: 32-2 / 227 65 20) and in London (Tel: 44-171 - 489 9990)
Annual/interim reports can be obtained for companies with a ♣ marked in this box. For further details please see London Share Service pages

STOCK MARKETS

Quarter ends in more European records

WORLD OVERVIEW

The end of a phenomenal first quarter for equities saw another batch of records on European bourses, including Copenhagen, Milan, Paris and Zurich yesterday, *writes Philip Coggan*.

Returns in the first three months of the year have matched many people's expectations for the whole of 1998.

The S&P World index gained 13.1 per cent up to March 30, and if Japan is excluded the gain was 14.5 per cent.

But Ian Harnett of NatWest Securities, a long-term bull of European equities, said yesterday: "For the first time in more than a year, we are becoming nervous about the excesses in the European bull market and are expecting a 5-10 per cent correction in the next 12 months."

Harnett said the 11.3 per cent gain in March was excessive and was the highest monthly return since February 1991. The rise over the past three months was the biggest quarterly gain since January 1986.

"With price/earnings multiples in Europe at 23.5 times, compared to 22 at the peak in 1994, valuations are also running ahead of themselves, making the markets susceptible to higher bond yields if US growth is robust or oil prices rebound."

He added that real indicators, such as the level of rights issues and the increasing level of interest from retail investors across Europe, were flashing red.

Asian markets were subdued. In Japan, some modest purchases by public funds enabled the Nikkei 225 average to close ahead, but the Tokyo market was still weaker than banks, which revalue their equities at the end of March, would have liked.

In Thailand, the rock that started the Asian avalanche last year, the market fell for the sixth day in a row after the central bank tightened its lending rules. The effect, brokers said, would be to require weaker banks to raise more capital.

Meanwhile, Moody's, the credit assessment agency, downgraded the ratings of five Thai banks – Bangkok, Krung Thai, Siam Commercial, Thai Farmers and Bank of Ayudhya.

All this did not deter Mark Mobius, the Templeton emerging markets fund manager, who said that large, well-capitalised Thai and Indonesian banks could be big winners from the Asian financial crisis.

The new regulations should help the biggest institutions survive in the long run, according to Mobius. "In Thailand, Bangkok Bank and Thai Farmers Bank are the big ones," he said.

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Currencies, Page 25

Dow surges as FOMC meets on rate policy

AMERICAS

US shares traded higher at midsession as the Federal Reserve's open market committee met to determine interest rate policy, *writes John Labate in New York*.

At midday, the Dow Jones Industrial Average had surged 81.96 to 8,864.08, while the broader Standard & Poor's 500 gained 12.14 or 1.1 per cent to 1,105.69.

Falling oil prices ignited the transport sector. Airline stocks made steady advances as UAL, parent to United Airlines, gained $2¾ to $92 and AMR shot up $3 7/16 to $142¾. Federal Express rose $2½ to $70⅞.

Bond prices also moved higher after the release of the Chicago purchasing managers report. Although the report showed a rise in economic activity, especially in employment and shipments, the closely watched prices-paid component was sharply lower, suggesting that inflation remains well contained.

By midday the price of the benchmark 30-year bond was 7/32 higher at 102 15/32, sending the yield to 5.946 per cent.

Banking and other financial shares rose as bond prices rallied in morning trade. The Philadelphia Stock Exchange's banking index shot up 18.92 or 2.3 per cent to 852.52. Citicorp gained $3 5/16 to $143, while Bank of New York rose $2⅝ to $63 5/16.

In the Dow, Allied Signal gained $1 5/16 to $42 11/16, while Boeing rose $1⅝ to $51⅞ and United Technologies advanced $2⅝ to $93 5/16.

But Philip Morris was lower, off $1¼ to $41⅞ the day after a congressional committee announced new tobacco proposals.

The technology and small-cap sectors moved ahead. The Nasdaq composite was up 18.04 or 0.99 per cent to 1,836.74, and the Russell 2000 index climbed 3.18 higher to 479.42.

Semiconductor shares were especially strong. Motorola surged $2 5/16 to $59⅝ and Advanced Micro Devices jumped more than 8 per cent or $2¼ to $28 13/16.

Dell Computer rose $1⅝ to $68 5/16 and Gateway 2000 gained $1 1/16 to $47⅝.

TORONTO was lifted by a strong banking sector and the TSE 300 composite index rose 27.78 by midsession to 7,595.69, shrugging off weakness in resource stocks.

The quarter-end portfolio shuffling by money managers also supported share prices. Financials and industrials were both 0.7 per cent higher, but price concerns hit oil and gas.

Mexico slow on oil deal

MEXICO CITY edged higher on month-end portfolio buying and expectations that domestic rates would drop.

However, trade was slow on mixed reactions to the Opec deal to cut output and as the market waited for the Federal open market committee to review US interest rate policy. By midsession, the IPC index was 19.27 higher at 5,057.73.

CSFB has increased Mexico's weighting in its Latin American portfolio, at the expense of Brazil and Argentina.

The investment bank forecast a run-up of 15 to 20 per cent in dollar terms over the next three months, against an 8 per cent decline so far this year. It noted:

- signs the government was taking steps to ensure economic stability;
- government moves to trim inflation and exchange rate volatility; and
- the positive earnings outlook for top stocks.

Anglo rally bucks rand fall

SOUTH AFRICA

Johannesburg made a late dash to end the first quarter on a strong footing, and the overall index rose 40.7 to a seven-month peak of 7,571.7.

Anglo, the country's largest conglomerate, rallied 740 cents to R230.80 as institutions put the finishing touches to their portfolio performances, offsetting the shadow of the rand's all-time low against the dollar.

Industrials gained 71.9 to 8,849.8 and golds added 7.3 to 814.2 as bullion recovered.

Dollar lifts Zurich exporters

EUROPE

A strong dollar and window dressing at the end of the first quarter sent **ZURICH** back into record territory, although analysts cautioned the market looked increasingly overbought and a correction remained on the cards.

The SMI index rose 49.2 to 7,585.5, eclipsing the previous peak set last Friday.

Exporters gaining from the firmer dollar included Novartis. It jumped SFr36 to SFr2,710 and was was also recommended by Zurich Kantonalbank as a trading buy.

Roche certificates added SFr150 to SFr16,500, still recovering from last week's losses, and Ems Chemie, SFr80 higher at SFr7,995.

Nestlé jumped SFr31 to SFr2,913 as CSFB reiterated its buy recommendation and raised its 1998 earnings estimates.

It was the turn of CS Group to outperform the financial sector with a rise of SFr4.50 to SFr305.

SAir Group, which on Monday said it was cautiously optimistic about 1998 prospects, rose SFr22 to SFDr2,129. Food company Hero, which said it expected higher 1998 profit, rose SFr15 to SFr965.

PARIS, too, rallied to a fresh closing high in spite of a mixed reaction to the Opec agreement to reduce oil production. Total lost FFr11 to FFr744, but Elf, which announced a boost to its reserves with 15 new offshore blocks in the Gulf of Mexico, was marked FFr11 higher at FFr812.

Elsewhere, Eridania Beghin-Say, the Franco-Italian food group, rose FFr42 or 3.5 per cent to FFr1,240 after announcing net profit for 1997 at the top end of analysts' forecasts.

Retailer Pinault-Printemps surged FFr370 or 8.4 per cent as the group denied more market rumours it was planning to sell its Printemps department stores.

A FFr21.10 or 4.6 per cent rise in Schneider to FFr477 was attributed to its relatively high proportion of dollar earnings.

Bouygues rose FFr35 to FFr1,080 ahead of its results announcement expected after the market's close.

AGF gave up FFr4.30 to FFr348.70 on profit-taking. Analysts said that the share was overbought on Monday after a series of recent broker upgrades.

The CAC-40 index closed with a gain of 75.58 at 3,875.81.

MILAN was supported by a switch out of bonds into equities and the benchmark Mibtel index reached a fresh high. The index rose 280 or 1.2 per cent to 24,583, with banking shares stronger.

Credit Italiano rose L315 to L9,045 after the release of its 1997 earnings, while Banca Intesa added L892 to L11,376.

FRANKFURT kept the motor stocks firmly in its headlights on a day in which the broad market managed only a modest advance. The Xetra Dax index was just 27.36 higher at the close of electronic trade at 5,097.25, with investors reluctant to commit fresh funds ahead of the US Federal open market committee.

BMW dropped DM67.50 to DM2,050.95 in the wake of 1997 and first quarter results, with the carmaker's plans to take over Rolls-Royce Motor Cars still weighing on its shares.

Analysts said that while the results were mostly in line with expectations, news that an overvalued pound had significantly hurt results in its Rover division caused some concern.

Volkswagen, which declined to comment on reports that it might raise its offer for the UK luxury carmaker, fell DM34 to DM1,425.

AMSTERDAM was hit by profit-taking in low-volume trade and the AEX index lost 2.57 to 1,126.43.

Concerns of oil price volatility hurt Royal Dutch. The group, which owns 60 per cent of Royal Dutch Shell, lost Fl 1.20 to Fl 118. Grolsch, the brewer, was supported by speculation the company could become a takeover target, and rose Fl 4.30 to Fl 59.80. Tulip, the computer maker, plunged Fl 2.10 to Fl 5.10 on reports that it was seeking state aid.

MADRID edged marginally higher in spite of weakness in Telefónica. The general index rose 1.08 to 888.67 as Telefónica, which lost Pta100 to Pta6,920, wiped out strength in banks and utilities. Argentaria rose Pta100 to Pta13,000, while Popular gained Pta250 to Pta15,150.

ATHENS pulled back as foreign investors took to the sidelines and local funds unloaded stock after the market's spectacular run. The general index, up almost 50 per cent since February 26, dropped 78.07 or 3.8 per cent to 2,005.82.

Cement stocks were marked down as ABN Amro recommended Titan and Heracles General, saying that they would continue to outperform the market. Sustained growth in cement demand and the shift from exports to domestic sales would result in a further widening of their operating margins. Titan lost Dr1,717 to Dr23,360 and Heracles was off Dr490 at Dr7,510.

COPENHAGEN finished at a record high, fuelled by solid gains for selected stocks in an otherwise mixed market. The KFX top 20 index rose 1.96 to 244.86.

A government pledge to close a corporate tax loophole which has allowed some financials to reduce their tax burden hit Den Danske Bank, DKr4 down at DKr921, Tryg-Baltica, which lost DKr18 to DKr554, and Cowdan, which gave up DKr4 to DKr1,250.

OSLO fell 1 per cent on weaker oil prices as scepticism spread over Opec's production cut agreement. The Total index fell 14.4 to 1,362.44, led down by oil-related companies. Norsk Hydro fell NKr7 to NKr378 and Saga Petroleum lost NKr5 to NKr136.

Written and edited by Michael Morgan, Emiko Terazono, Peter Hall and Paul Gregan

FTSE Actuaries Share Indices — European series

March 31

National & Regional Markets	Ecu Index	Day's %	change points	Yield gross %	xd adj ytd	Total retn (Ecu)
FTSE Eurotop 300†	1216.01	+0.27	+3.29	1.90	5.11	1230.92
FTSE Eurotop 100	2905.73	+0.39	+10.77	–	–	–
FTSE Eurotop 300 Regions						
300 UK†	1195.26	+0.22	+2.66	2.79	11.38	1227.51
300 Ex-UK	1228.51	+0.30	+3.65	1.43	1.56	1233.31
300 Eurobloc	1205.38	+0.31	+3.76	1.60	2.01	1212.10
300 Ex-Eurobloc†	1226.55	+0.24	+2.98	2.12	7.36	1247.35
FTSE Eurotop 300 Economic Groups						
Resources	1030.70	–1.07	–11.18	2.68	3.62	1049.11
General Industries	1144.50	+0.06	+0.71	1.77	4.70	1152.36
Consumer Goods†	1174.18	+0.70	+8.17	1.54	5.32	1192.34
Services	1173.43	+0.44	+5.10	1.87	4.51	1187.42
Utilities	1331.43	–0.03	–0.33	3.32	1.84	1349.58
Financials	1350.67	+0.48	+6.43	1.81	7.10	1366.02

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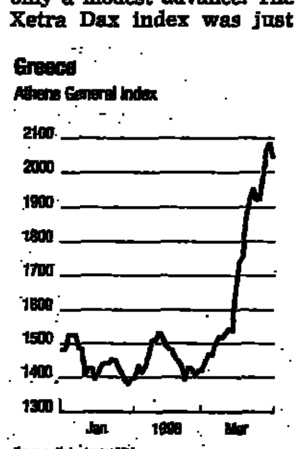
Greece
Athens General Index



Source: Datastream/ICV

MARKET FOCUS

Finns have come in from the cold

Although the Finnish stock market has been one of the strongest European gainers this year, rising 32 per cent, this has not necessarily been due to the "Emu play" that has fuelled southern Europe and Ireland.

European economic and monetary union will bring identical short-term interest rates to its participants, and long-term rates have already aligned to the benchmark German rate.

Instead of a rally directly linked to the low interest rates, analysts say Finland is only catching up with other European markets in terms of valuations.

Although Finnish equities have historically carried a high country risk premium because of the Finns' economic and geographical closeness to the Soviet Union, this has disappeared with the cold war.

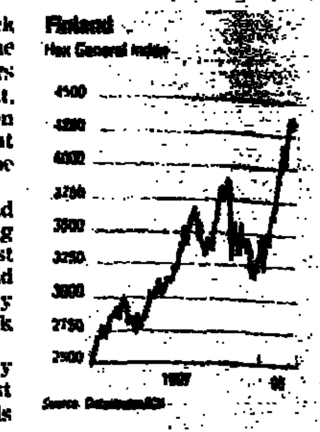
Finland suffered falling gross domestic product in the early 1990s after the collapse of the Soviet Union. However, it rebounded in 1994 as it increased its trade with Europe and the rest of the world. Although unemployment remains high and domestic consumer demand remains sluggish, greater links with Europe should support growth.

The recent moves in the market have also partly been due to distortions created by the large weighting of Nokia, the telecoms company, and the forestry group UPM-Kymmene.

According to Merrill Lynch in London, Nokia accounts for 34 per cent of the Hex index, while UPM is about 8 per cent.

Nokia has rallied this year thanks to the release of strong 1997 earnings that overshadowed concerns over the effect of the Asian economic turmoil. UPM, meanwhile, has been supported by merger speculation and its announcement earlier this year that it would buy back up to 5 per cent of its shares.

Finland
Hex General index



Source: Datastream/ICV

In spite of the relatively solid fundamentals, the recent rally has started to worry some analysts. Last month, a survey of Finnish institutional investors revealed that they had turned cautious on domestic equities as prices rose.

According to a quarterly poll by Gallup Markkinatutkimus for Kauppalehti, the daily business newspaper, about 60 per cent of investors said they would invest in equities over the next six months, down from the 74 per cent that had invested in the past six months.

Hans Boström, analyst at Paribas in London, believes that valuations are starting to look stretched. On a price/earnings ratio basis, Helsinki remains at a discount, with the market trading at 21 times for 1998 against 22.7 times for the rest of Europe. But on a price/cash flow basis the Finnish market is 13 times, higher than Europe's 8.3 times.

Mike Finney, analyst at Dresdner Kleinwort Benson, however, says companies like Nokia remain at a discount to European rivals.

Merrill Lynch believes there could be a rally if German pension funds start buying Finnish shares once Emu starts – although it is too early to judge how strong demand would be.

Emiko Terazono

Funds injection boosts Nikkei

ASIA PACIFIC

A last-minute injection of public funds into the futures market boosted share prices in **TOKYO** on the last day of trading for the fiscal year, *writes Michiyo Nakamoto*.

However, the Nikkei 225 index ended far short of the 18,000 level, widely regarded as an important benchmark.

The Nikkei traded erratically throughout the day. On the positive side was the expectation that public funds would come in to support stock prices. A comment by the head of the government's tax commission calling for tax cuts of Y10,000bn also spurred positive sentiment.

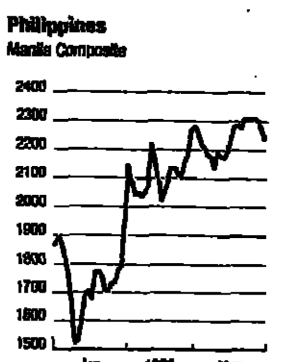
Purchases by public funds were noticed towards the end of the session in the futures market, which triggered arbitrage buying in the cash market. Post office funds reportedly handed Y971.2bn to trust banks to invest in the stock market.

At the same time, however, substantial selling came from financial institutions reducing their cross-shareholdings at the year-end. After a turbulent session, in which the Nikkei moved between a low of 116,178.22 and a high of 16,584.62, the index closed 248.13 higher at 16,527.17.

Volume rose to 650m shares, up from 395m on Monday. Winners outnumbered losers 678 to 477 with 103 issues unchanged. The Topix index rose 10.43 to 1,251.70.

Nippon Steel gained Y1 to Y214 on news that it would use reserves to buy back up to 150m of its own shares, valued at about Y32bn. The yen's persistent weakness supported exporters such as Honda, which gained Y180 to Y4,800.

Philippines
Manila Composite



Source: Datastream/ICV

MANILA lost 1.6 per cent as investors became cautious following a drop in Asian currencies and ahead of the US Federal open market committee meeting. The composite index fell 35.38 to 2,238.42, also under pressure from profit-taking in some issues that have done particularly well recently.

Among blue chips, PLDT lost 15 pesos to 1,055 pesos and Ayala Land slipped 50 centavos to 18.25 pesos.

The heavily traded Metro Pacific fell 6 centavos to 2.34 pesos after it denied rumours of a possible merger between its telephone business, Smart Communications, and Pilipino Telephone.

BANGKOK traded lower as investors unloaded bank and finance issues after the central bank tightened rules on loans for local banks that are likely to force them to raise their capital. The SET composite index was marked down for the sixth straight trading day, losing 5.98 or 1.3 per cent to 459.11.

Analysts said sentiment was weak even before the government's announcement, after Moody's lowered the long-term subordinated debt ratings and financial strength ratings of the country's five largest banks. That outweighed comments by Mark Mobius, who runs the $15bn emerging markets fund of US financial group, Templeton Worldwide, that large, well-capitalised Thai and Indonesian banks could be big winners from the Asian financial crisis.

Bangkok Bank fell Bt3.50 to Bt81.50 and Thai Farmers Bank Bt2 to Bt75.50.

SINGAPORE saw late selling after SIA dismissed speculation that it was about to announce plans to merge its foreign and local share tranches. SIA originally said a decision would be made by the end of March and rumours of a briefing led traders to believe that a merger announcement was imminent.

SIA local closed unchanged at S$9.30, having touched a high of S$9.65, while SIA foreign finished 20 cents lower at S$11.50, off a low of S$11.40.

Property stocks extended losses seen since the end of last week as profit-taking continued. The Straits Times Industrial index closed 19.38 weaker at S$1,629.18.

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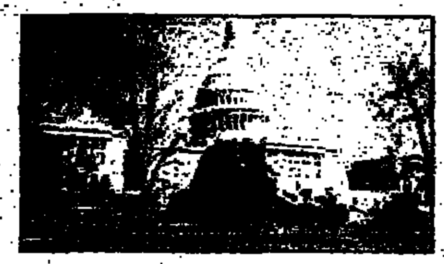


FT IT **Information** Technology

Wednesday **April 1** 1998

The world market for gathering, analysing and distributing data is likely to be worth $70bn by the end of the century, reports **Paul Taylor**

Key role for business intelligence

In the dawning information age, knowledge may well turn out to be a company's most valuable asset – and the 'business intelligence' tools used to acquire such insight could prove vital to building and maintaining a competitive edge.

Big companies, including those in the retail and financial services sectors which have collected data on their customers and markets for many years, are now beginning to store it in huge 'data warehouses' and then analyse, 'mine' and manipulate that data for competitive advantage.

Business intelligence – the gathering, management, analysis and distribution of data – enables companies to glean knowledge from their huge information databases, data warehouses and external data sources. This knowledge can then be used to make strategic decisions about which markets to enter, which customers to target and which products to promote in an effort to improve profitability.

"Businesses are increasingly competing on the basis of information," says Ben Barnes, general manager of International Business Machines' global business intelligence business unit. "They are mining vast amounts of business and syndicated data and providing access to valuable data on company intranets and the Internet."

These businesses are discovering new insights, and using that knowledge to drive decisions that make their companies more competitive, says Mr Barnes. "This is largely a result of businesses aggressively seeking new ways to differentiate themselves and grow market-share in an increasingly competitive, global and deregulated environment."

Highlighting the growing importance of the market for business intelligence (BI) market, IBM announced a company-wide BI initiative last month including partnership agreements with leading BI software developers such as Arbor Software, Business Objects and Cognos whose Impromptu and PowerPlay software has brought sophisticated online analytical processing tools to the corporate desktop.

Inevitably, in an emerging market segment, there are many definitions of business intelligence – a term coined by the Gartner Group a few years ago. However, IT analysts generally define BI as the ability to access and analyse information as required, and use it to make better business decisions.

This broad definition embraces a number of technologies including data warehousing and data mining, query and reporting, executive information systems (EIS), decision-support systems (DSS) and multi-dimensional analysis or OLAP (online analytical processing) tools.

Ron Zambonini, chief executive of Cognos, has a simple definition. "Business intelligence is what industry-leading corporations rely upon to ensure success," he says. "Integrating historically separate functions such as data access, reporting, exploration, analysis, and forecasting, business intelligence gives decision-makers the information they need to find solutions to business problems."

Some estimates suggest that businesses today only use between seven and 10 per cent of the data they have themselves generated over the years.

In part, the move to analytical systems has been fuelled by technological advances including the arrival of relatively low-cost high-power parallel processing systems, inexpensive data storage and the development of new algorithms for data mining. At the same time, the rapid development of corporate intranets has provided an easy and powerful way to distribute the knowledge gleaned from BI systems.

Estimates for the size of the BI market vary dramatically. IBM, quoting the Palo Alto Management Group, claims the business intelligence market will grow to be worth as much as $70bn by the turn of the century.

What is beyond doubt is that the BI market is growing rapidly. "As businesses try to differentiate themselves in a more competitive 'e-business' environment, they are relying on business intelligence as the nucleus of an integrated customer relationship management programme," says IBM's Mr Barnes.

"The business intelligence market is very hot and is becoming increasingly mainstream, with some segments experiencing year-over-year growth of more than 100 per cent," says Howard Dresner, research director of the Gartner Group a leading authority on BI markets.

Drilling through the data mountain yields golden nuggets of business information

Illustration by Mark Vernon

Some elements of BI are not new. For example, Comshare, founded in 1966, pioneered OLAP tools with a product called System W, launched in 1982, and by the mid-1980s the first EIS system, Pilot's Command Center, had been developed.

In 1990, Cognos launched PowerPlay, the first desktop OLAP tool and throughout the 1990s the pace of development has accelerated, helped along in 1993 by the publication of a seminal paper by E F Codd & Associates commissioned by Arbor Software and entitled *Providing OLAP to User-Analysts: an IT Mandate*.

Today, Nigel Pense, one of the authors of *The OLAP Report*, the sector 'bible' published by Business Intelligence, a London-based research, publishing and conference group, says there are more than 30 companies claiming to provide online transaction processing (OLTP) products.

"BI and OLAP data-mining tools are concerned not with what happened yesterday, but what the data can tell us about tomorrow," says Ian Mecklejohn of Business Intelligence.

The OLAP Report estimates that the fragmented OLAP market, which is led by Oracle, Hyperion Software, Comshare, Cognos and Arbor Software, was worth about $1bn in 1996 and about $1.4bn last year. The entry of Microsoft into the market later this year with an OLTP server code-named Plato, is likely to boost a technology already on the verge of wide-scale acceptance.

However, the launch of Microsoft's offering could also trigger the restructuring of a market which *The OLAP Report* says has shown a 40 per cent growth rate over the past four years. "We expect this to drop slightly in 1998 and in later years for several reasons – it is hard for markets of this size to grow so rapidly, there is a degree of market saturation, and we expect average prices to reduce sharply once Microsoft enters the market – though volumes will grow more strongly than ever."

In another segment of the overall BI market, International Data Corporation, the IT market research company, estimates that the market for data warehouse hardware, software and services, will grow from $8.1bn in 1996 to $23.8bn in 2001, a compound annual growth rate of 24 per cent.

Data warehouses and data marts – smaller repositories for departmental data – account for the bulk of BI revenues, says Richard East, vice preseident of Enterprise Systems for NCR, the leading data-warehouse vendor. Among NCR's clients, Wal-Mart, the US retailer, has built the world's largest data warehouse containing 24 terabytes of data. (If a book contained a terabyte of information, it would be 32,000 feet high – taller than Mount Everest.) Mr East emphasises that companies need to take a holistic view of BI and not just focus on the infrastructure – "BI has to be aligned to business strategy," he says.

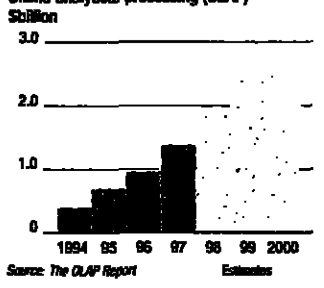
According to a Dataquest survey, published in February, data warehouses are being used for a wide variety of decision-support requirements ranging from *ad hoc* questions and executive information systems to business intelligence and OLTP. Overall, the finance, marketing and sales departments are viewed as the most important users of data warehouses, although many companies are also providing access to data warehouses for customer service, new product development and human resources departments.

A third of the European companies interviewed by Dataquest use their data warehouse systems for targeted marketing campaigns while one fifth see data mining as the systems' most important role. According to Meta Group, the US-based market analyst, the market for data mining tools in 1994 was worth just $50m but had grown to around $300m last year and is predicted to reach $800m by the year 2000.

Other rapidly growing areas of business intelligence include data visualisation tools such as those developed by SAS Institute which help business managers interpret the results of data mining exercises, and performance management application software such as Comshare's Commander Decision which is designed to provide line managers with the information they need to make business decisions.

David Allcock, in charge of Comshare's UK and European distributor operators, claims the technology behind the latest version of Commander Decision, launched a few months ago, "gives users a way to easily cull relevant information for analysis from what would otherwise be an overwhelming amount of data – it takes visual understanding of large volumes of data to a whole new level for our customers."

Market size
Online analytical processing (OLAP)
$billion



Source: The OLAP Report

Similarly, SAS Institute believes its tools will help transform the use of corporate data by enabling users to discern patterns and trends which were obscured from view. For many companies, attempting to interpret data is like "trying to drink from a fire hose," says Alastair Sim, head of product management at SAS in the UK.

Significantly, companies such as SAS, Comshare and Cognos are also opening up BI applications to a much wider corporate audience. As Howard Dresner of Gartner notes: "Up until the early to mid-90s, business intelligence was an esoteric discipline – reserved for statisticians and analysts. The BI market was small, where a limited number of software vendors thrived by selling complete development environments replete with multi-dimensional databases, modelling languages, statistics and user interface tools."

BI software was also expensive, typically costing between $2,000 and $8,000 per user.

However, over the next few years, Mr Dresner predicts that there will be "a maelstrom" in the BI market. He forecasts that this whirlpool will be driven on the demand side by the emergence of BI as a mass market, growing deployment sizes, user 'graduation' to increasingly sophisticated functionality and the importance of enterprise resource planning applications.

Supply side forces include the entrance of large BI vendors such as Microsoft and Oracle, ongoing consolidation and acquisitions, the loss of differentiation, the importance of the web and the emergence of BI applications and suites. Against this backdrop, analysts insist that information is no longer a tactical tool, but a strategic 'differentiator' that separates high growth businesses from those soon to be left behind.

"Powerful, transaction-orientated information systems have become standard in every major industry, effectively levelling the playing field for corporations around the globe," notes IBM.

"Industry leadership now requires analytically-orientated systems – the systems that generate information on which pivotbal strategic decibsions can be made."

IT NEWS UPDATE

Governments and financial markets are finally realising the seriousness of the Millenium Bomb, reports **George Black**

Awareness of year 2000 crisis reaches the top

Governments, stock markets and insurers are at last waking up to the potentially catastrophic impact of systems failing to recognise the year-field '00' as meaning '2000'.

In the UK, the government-supported Accounting Standards Board has issued an instruction to all companies to disclose their year 2000 plans, including an assessment of the risks and the costs involved in handling the issue, in their current year's accounts. The London Stock Exchange has written to listed companies urging them to act on this instruction.

Andrew Lennard, technical director of the ASB's urgent issues task force, noted that in a civil action against a company which did not comply the directors could be held personally liable.

The French Stock Exchange has insisted that companies must present their shareholders with credible strategies to tackle the date change.

Companies must disclose in their 1998 accounts the nature of their preparations, contingency plans, costs and the likely impact on their financial results, ordered the operations commission of the Bourse. This follows a report by management consultancy Ernst & Young which said that France was lagging behind other countries in dealing with the crisis.

The Australian government has written to its listed companies requiring them to provide information on their year 2000-readiness by the end of June. The German financial authorities are reported to be discussing similar action. Last year, the US Securities and Exchange Commission ordered US firms to disclose their progress on the issue.

The authorities worldwide are recognising that the staff shortage is the most worrying aspect of the situation. In the UK's recent budget, £90m was allocated to a training scheme to increase the number of IT-skilled people.

Sceptical reaction

The industry is sceptical about the plan, however. Terry Rollo, vice-president of software tools vendor, Reasoning, says it is not possible at this late stage to put people through a short training course that will enable The European IT Observatory reports than an acute shortage of programmers and analysts is affecting the entire European industry. In the next five years, Europe will need between 1.5m and 2m more IT professionals. In the US, industry representatives have claimed there is a shortage of 340,000.

Next month, the UK government will introduce tax relief as an incentive for firms to address the so-called millennium 'bomb' problem – or the 'Y2K' issue, as it is also called. Tax relief on systems changes could be claimed as current expenditure, in the year in which money is spent, rather than as capital expenditure spread over four years.

However, this measure also drew criticism from the industry, since it could mean that companies are encouraged to de-bug systems which would be better replaced. In London, marine and aviation insurers are looking for ways to introduce exclusion clauses into their contracts to protect themselves against the possible impact of systems failures.

Predictions of the impact of the crisis continue to worsen. Ed Yardini, chief economist at financial services firm Deutsche Morgan Grenfell, says there was a high chance that the Y2K problem could spark off a global recession. Concerns about the effect on public services are also growing. In the US, a report by Congressman Steven Horn said that US government departments were badly behind in their efforts to achieve compliance. In the UK, the Conservative Party has called on the government to guarantee that public services will function on January 1, 2000.

PC sector worries shrugged off

Investors appear to have shrugged off worries about a possible slowing down of the personal computer business.

Profits warnings from Compaq, the leading PC supplier, and Intel, the chipmaker, caused a temporary blip in confidence, but very soon financial markets were back to normal.

Intel's statement caused the US and European stock markets to be marked sharply down.

The chip maker said it expected revenues to be down by about 10 per cent in the first quarter of its year compared to earlier quarters.

Compaq said its first-quarter results would be less good than expected because of a slowdown in the US market in the first quarter of the year which had caused a build-up of inventory.

Analysts said Compaq's weaker position was also due to increasing competition for PC sales in the US from IBM.

Compaq's warning hit the shares price of competitors, including Dell and Gateway 2000, and components suppliers such as disk drive makers Quantum and Seagate.

Both announcements signalled that competition is increasing and profits in the PC sector could continue to be affected.

For Intel, the shift to under-$1,000 machines could mean that personal manufacturers will buy more from its competitors Advanced Micro Devices and Cyrix. AMD's share price has gone up since Intel's fell.

For Compaq, there is a price war which began towards the end of last year and is now getting tougher. The leaders seem to be increasing market share at the expense mainly of second-tier vendors but also at the expense of their profits.

Compaq and Hewlett-Packard among others have cut the prices on personal computers and and servers recently. Analysts at IDC and Dataquest say that PC sales have been increasing as a result of lower prices but profits of the manufacturers must be suffering as they are in effect buying market share.

IDC said prices were down 25 per cent in a year and were falling faster than at any time since 1991.

Net security causes concern

US and European government officials have been discussing how the Internet can be made more secure, after hackers broke into systems of US government departments and the space agency, NASA.

An Israeli teenager was arrested and five other young people in the US and Israel were questioned in connection with the incidents. Since then, a number of corporate Web sites have been defaced by hackers in apparent 'revenge' attacks.

Meanwhile, the Clinton administration is seeking funds from Congress for a crackdown on hacking. The number of criminal cases against hackers in the US has more than doubled in the past year, the Federal Bureau of Investigation told a senators' hearing.

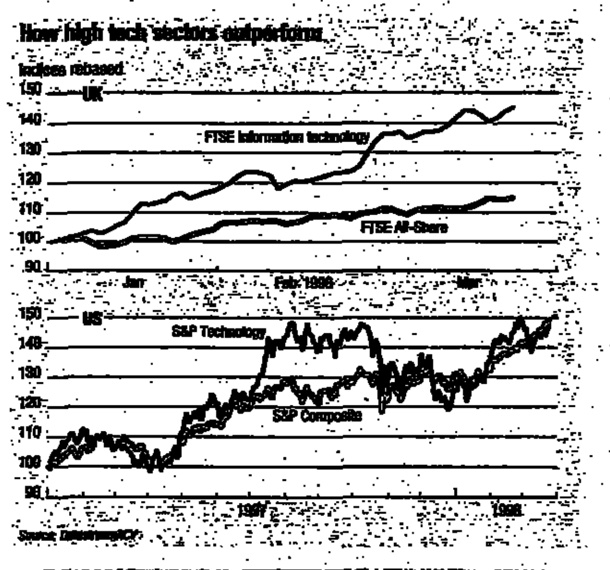
Hacking and viruses are the two biggest threats to the Internet, according to a survey carried out by NOP for the UK's Department of Trade and Industry and a number of industrial partners among 1,000 UK information security managers. The report concluded that increasing use of the Internet was likely to boost the number of security breaches.

However, the survey said it was apathy rather than concern about security which was holding back many UK companies from using the Internet for electronic commerce.

It predicted that when businesses became more enthusiastic about using the Internet they would also become more concerned about security weaknesses. Hacking and viruses were a much bigger concern for Internet users than credit card fraud, it noted.

A study of the Internet by market research firm Ovum found that less than half of 400 business users across Europe were concerned about security. Ovum said the figure was surprisingly low compared to previous studies and this was partly because of improved methods of protection such as firewalls.

IT and the law: see reports, pages 12-14



RESEARCH DIGEST By George Black

E-commerce set to boom

InterForum, the IT vendors' consortium, says in a new white paper that the level of business transactions on the Internet is still low but is set to explode as more mature products are delivered to the market. The World Trade Organisation's report *Electronic Commerce and the role of the WTO* estimates that the volume of electronic commerce could rise to $300bn by the end of the century.

InterForum website: http://www.interforum.org

Brighter prospects for Netscape

Netscape, the company that invented the browser software that sparked the Internet boom, is poised to become a strong player in electronic commerce, despite gloomy reports on its financial position, contends Giga Information Group.

The market research firm says Netscape has developed strong Internet-based technology and has won some large customers, so companies exploring e-commerce should not dismiss it as a viable player.

Users want thin clients

Morse Group, a UK workstation reseller, conducted a survey which found widespread approval for the concept of network computing. Out of around 200 IT directors and managers in UK companies, 93 per cent intended to use thin clients or network computers. But most were held back by lack of software and lack of bandwidth.

The US research group Zona says the worldwide market for thin clients grew 35 per cent last year to a total of 350,000 units – still a relatively tiny number compared to the PC business. International Data Corporation (IDC) says that IBM, Sun and Hewlett-Packard are the best-known brands of network computer (NC).

The machines are spreading slowly but would do better if the vendors would explain their benefits more clearly, says IDC. It says NCs are mainly being deployed instead of personal computers rather than terminals and 80 per cent of users are aiming to cut the cost of ownership.

IT is seen as an overhead

Most IT expenditure is still seen as a cost overhead, rather than as an investment in competitive advantage, according to a study by Cambridge Information Network.

CIN, an offshoot of the US company, Cambridge Technology Partners, says that few companies consider measuring return on investment based on 'softer' issues such as increased productivity or contribution to strategic objectives. "For the vast majority, the techniques for measuring ROI remain focused on payback on investment," it says.

Corporate web sites condemned

The web sites of the UK's top 100 companies are poorly rated in a study by the Interactive Media in Retail Group. Only 2 per cent are given the highest rating of five stars. Nine of the companies are still without a site.

IMRG says the general level of understanding and commitment demonstrated by the sites is "woefully inadequate" and gives shareholders little reason to be confident. It argues that almost no company is doing this type of development well on its own.

External partnerships and opinion are essential to enable companies to "think outside the box," it says.

Net software piracy soars

Internet-related software piracy is at an all-time high, says the Federation Against Software Theft. In January, it amounted to 28 per cent of all software piracy, up from 20 per cent the previous month, the association estimated.

More staff go freelance

Around a third of IT staff leaving user-companies are going freelance, rather than moving to another employer, according to a UK survey by Hay Management Consultants. Staff turnover has trebled in the past five years to 10 per cent. Recruiting difficulties are being experienced by 70 per cent of companies.

CeBIT breaks records

Around 670,000 visitors attended CeBIT last month confirming the Hannover-based information technology show as the world's largest IT extravaganza. More than 7,000 companies exhibited at the show. *See report on page 17.*

New search for winning web sites

Following the success of the 1997 FT Business Web Site of the Year competition, entry details of the 1998 competition will be announced in the next issue of the FT-IT Review on Wednesday, May 6. The competition is sponsored by UUNET UK, Europe's largest Internet service provider.

THE MONTH IN BRIEF

Bill Gates testifies

Microsoft chairman Bill Gates gave evidence before the US Senate Judiciary Committee in its investigation into the alleged breach of an agreement regulating the company's licensing terms.

Competitors have claimed that Microsoft, the world's largest software company, operates an unfair monopoly by forcing personal computer manufacturers to instal its Internet access software Internet Explorer with its PC operating system Windows.

The US Justice Department has now extended its inquiry into Microsoft's role in developing the Java language. A poll carried out by the industry analyst Xephon among 230 IT managers worldwide found that 60 per cent of them thought Microsoft was now more influential than IBM had been in its heyday – only 9 per cent said they did not believe this.

Java for windows

Microsoft has said it is to introduce Java tools linked to its Windows operating system, thus further angering rivals who hope Java could become a platform-independent industry-standard language. Microsoft said its J++ development tools would enable developers to write software for use on Windows only.

Sun Microsystems, IBM and others have accused Microsoft of trying to undermine their efforts to produce a language which could run on any operating system. Microsoft argues that its tools will make it easier for people to write applications in Java.

CA drops CSC bid

Computer Associates dropped its $9.8bn hostile bid for Computer Sciences Corporation after an acrimonious public wrangle. CA chief executive officer Charles Wang said it might renew its interest if CSC's share price fell. Its withdrawal leaves CSC looking for a partner, which it had begun to do before the bid by CA. Analysts say that CSC is still an attractive target for a predator because its performance has been poor, but the outsourcing business in which it is involved is growing rapidly. CSC has said it intends to remain independent.

Wang buys Olivetti services

Wang Laboratories, the US former computer maker turned software developer, has bought the computing services arm of Olivetti, the Italian computer maker turned telecoms company. Olivetti is handing over its Olsys operation to Wang, which in exchange is giving Olivetti an 18.6 per cent stake in its business. This makes Olivetti Wang's largest shareholder, but at a high cost – Olsys made up more than 60 per cent of Olivetti's revenue.

Olivetti had already disposed of its loss-making personal computer business. There has been speculation that Mannesman, the German company, may be looking to buy a stake in Olivetti, but Mannesman has denied any such plan.

ICL to float in 2000

ICL, the UK subsidiary of Japanese computer maker Fujitsu, has confirmed that it intends to float on the London Stock Exchange in 2000, after announcing a return to profit in the past year. Pre-tax profit for 1997 was £30m on revenue of £2.47bn, compared to a loss of £2.5m on revenue of £2.92bn last year. In the past three years the company has moved from computer manufacturing into computing services.

Web via power lines venture

Nortel and United Utilities have formed a joint venture company to sell Internet access via the electricity lines. The technology was developed by Nortel and Norweb Communications, part of United Utilities. The joint venture, Norweb DPL (Digital PowerLine), intends to promote a service offering Net access through the power lines at one megabit per second – ten times faster than ISDN.

Emu specification published

BASDA, the Business and Accounting Software Developers' Association in the UK, has published a specification for producing software systems that can cope with transactions involving the euro currency. It promises to certify systems as capable of handling the task.

Oracle profits up 27 per cent

Leading business software vendor Oracle produced better than expected financial results for the third quarter of its year. Its profit was up 27 per cent to $215m on revenue up 27 per cent to $1.75bn. This amounted to 22 cents per share, against an analysts' consensus expectation of 19 cents per share, as stated by FirstCall.

The company lost around half of its market value after it said in December that its sales had fallen off. It has blamed part of the trouble on the south-east Asian financial crisis. More recently it has referred to strong competition from Microsoft in the database market and SAP in the applications market.

SNI seeks US growth

Siemens-Nixdorf Information Systems must grow its business in the US, if necessary through acquisition, in order to compete in the top league of IT companies worldwide, said its president and chief executive Gerhard Schulmeyer. Expanding the company in the US was the main challenge he would face in the next year before he resigned his post as chief executive.

Andersen up 25 per cent

Andersen Consulting, the leading IT services company, reported a 25 per cent increase in revenue to $6.6bn for 1997. The company said it was the fourth consecutive year in which growth was greater than 20 per cent. It did best in the US where revenue was up 29 per cent, followed by the European and Middle Eastern region, 23 per cent, and Asia Pacific, 16 per cent. The strongest growth was in the energy sector, followed by electronics.

Bay Networks expects fall

Bay Networks, one of the leading network product manufacturers, said it expected third-quarter revenue to be down about 10 per cent below the second quarter because of a weakening of demand. Profit would be down but it would still be in the black, it said. Technology changes in the market lay behind the fall in demand, the company said.

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The FT Review of Information Technology

This review is published on the first Wednesday of the month. In addition, FT-IT features appear in the 'Inside Track' section of the FT on each of the other Wednesdays of the month. The IT Appointments section is also published each Wednesday.

FT-IT Review, editorial controller: Michael Wiltshire.
Editorial inquiries: see details of the FT-IT fax-u-back service, page 18.
Writers in this issue, (volume four, number five): Paul Taylor, IT correspondent; John Kavanagh, Geoffrey Nairn, Christopher Price, Tom Foremski, Philip Manchester, Rod Newing, George Black, Mark Vernon, Geoffrey Wheelwright, Mark Vernon, Alan Simpson, Nuala Moran and Jola Shillingford.

Cover Illustration: Mark Thomas.
Graphics: Robert Hutchison.
Picture research: Patricia Lee and Matthew Glynn.

The next issue: Wednesday, May 6. Themes will include digital broadcasting; developments in transport telematics; plus a special focus on directions in IT in training.
Plus: IT news update and interviews with key figures in the IT industry (see also information panel on page 18 of this issue).

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Bob Finocchio surprises Wall Street

Informix, the database pioneer, sharpens its market strategy

Bob Finocchio, president, chairman and chief executive of Informix, the database group, does not mince words. "I would say, six months ago we were pretty much dog-meat," says the former 3Com Systems president who took over at Informix in July last year.

"I think when we made our announcements in mid-November about our plans for recovery, restructuring, recapitalisation and completion of the [results] restatement, there certainly was some level of scepticism about our ability to execute, and Wall Street pretty much stayed on the sidelines."

Not any longer. In February, Informix startled Wall Street not with another profits warning – but by reporting earnings of five cents a share for the 1997 fourth quarter, instead of the consensus 16 cents a share loss analysts had expected. "For the first time in a long time we were able to give them a positive surprise," says Mr Finocchio.

Indeed, less than a year ago, there were serious doubts about whether the database pioneer, founded in 1980 by Roger Sippl and Laura King, would survive at all. Shares in the company plunged last year after Informix reported a sharp decline in revenues and huge first quarter losses.

As the company's financial disclosures came under increased scrutiny, shareholders responded by launching a handful of lawsuits and called for the resignation of Phil White, Informix's former chairman and chief executive. Mr White left Informix shortly after Mr Finocchio was appointed.

Mr Finocchio, who studied economics at Santa Clara University and then graduated from Harvard Business School, began his career at the Bank of America in 1975, progressed to Rolm, the telecoms equipment group, and joined 3Com, the networking equipment group, in 1988.

At 3Com, he helped reposition and grow the group and was named president of 3Com Systems in 1996. But he knows the challenge facing him at Informix is much bigger. "There is a huge amount of work still to be done," he says. "While the fourth quarter was encouraging, and I'm very, very pleased with it, we are under no illusions about how hard the work is that we still have to do."

His initial task was to stabilise the company. "We announced our plan on November 18 and by that time we had achieved a lot, in terms of completing the restatements, reducing operating expenses, raising additional capital and guaranteeing to people that the company was on a stable financial footing.

"We announced at that time that our focus was going to be on the database marketplace. Since then we have honed our message considerably."

While most of Informix's rivals have been diversifying, Mr Finocchio says Informix wants to be known as Informix, the database company. "It is our objective to be the best database company in the world.

"This is somewhat controversial, but this is very simply a 'stick to the knitting' kind of strategy. This is what we are good at, we have a strong reputation and we have substantial leadership with our technology. I'm convinced there is a strong and attractive market available for us."

He splits the database market into three broad categories – the low-end, mid-range and high-end. The low-end of the market is dominated by Microsoft and shrink-wrap products. "They can charge anywhere from a very low price to zero for the product so it is not an attractive market for us," he says.

Similarly, while he acknowledges that the mid-range market – which includes 'industrial strength databases' sold mainly to support packaged applications such as SAP, Baan and PeopleSoft – is an important market, he adds. "It is also a difficult market because databases in this segment have been somewhat commoditised and it is very hard for database vendors to differentiate products."

Finocchio: 'We will focus on the high-end of the database market'

As a result, he says the mid-range database market has been subject to very intense price competition. "While this is an important market for us, we have to be careful again that we don't optimise our business model around it because it is the lowest gross margin business."

Instead, Mr Finocchio says Informix will focus on what he called "the high-end" of the database marketplace. "High-end, not so much defined as big customers, but high-end as defined by customers who have high levels of requirements – customers who use information technology as a source of competitive advantage."

Typically, he says, these customers don't gain competitive advantage by buying packaged software. "It is obvious that if your competitor can buy the same software as you that it is not easy to differentiate yourself."

Within the high-end market segment, Informix is targeting three horizontal application areas, "where we have explicit competitive advantages," and which he believes have tremendous opportunity for growth.

The first of these areas is high performance OLTP (on-line transaction processing) – traditionally a strong area for Informix. Mr Finocchio believes Informix can continue to do well in this area because of the specific architecture of its database product.

The second area Informix is targeting is data warehousing. "We have done quite well in data warehousing over the past five or six months, winning some very large transactions in highly demanding environments," says Mr Finocchio. "Again, we have sustainable advantages here driven by the architecture of the product, but we also have very deep experience building data warehouses for customers."

The third horizontal application area is web and content management. "This has to do with our Universal Server product, now called the Universal Server Option," he explains. "We've experienced very good growth in this area.

"Certainly, we made a lot of marketing and positioning errors and we have had to work very hard working through the early adopter cycle of this market," he says. Nevertheless, Informix now has more than 1,000 customers using Universal Server Option or some variant of it.

"I'm very encouraged by what I am seeing in this part of the market," he says. "This capability is critically important for customers going forwards. We are really seeing opportunities in two broad areas involving web and content management."

He points out that "people building websites based on flat file systems quickly realise that they are very awkward, hard to manage, don't scale and the cost of administration is extremely high. It is so easy for a website to become out of date.

"For websites to make money, they need a lot of sizzle, they have to be exciting – that's very hard to achieve if all you're doing is putting a brochure on line. By hosting a website in an object relational database you gain all the scale advantages and cost-of-ownership advantages of relational, coupled with the capability of producing a very exciting experience for the user.

"A relational database can create a customised HTML page on the fly for a particular user. It is very dynamic and customised – and, as sites become more optimised around electronic commerce, that object relational technology will be the best approach."

He emphasises again that this is still nascent. "But many customers are building sophisticated e-commerce sites based on object relational technology and I think we are just at the absolute beginning of this product lifecycle."

Nevertheless, he says his expectations for Informix's object relational database technology are realistic. It is not going to be a multi-hundred million-dollar business, but it is going to be slow and steady. "If you look back at how quickly relational bases ramped up, it didn't turn into a $10bn marketplace the first year."

Overall, he says he is confident Informix now has right strategy. But he adds: "I have to be very careful that we don't assume that our work is over. We still have a lot of very hard work to do. We have made huge progress from the financial standpoint – we have stabilised the company, we are making money – but the challenge remains for us to grow the top line, to demonstrate to the market that we will continue to be successful at the high end."

TECHNOLOGICAL ADVANCES • By Geoffrey Nairn

Internet set for key role in healthcare

Expanding applications range from international medical research to telemedicine and online diagnostic services for patients in remote areas

The enormous advances in information technology in recent years have had an important knock-on effect in the health sector. The efficiencies obtained from applying IT to streamline healthcare management can release more funds for investment in clinical technologies to improve the prevention and treatment of illnesses.

However, too many health authorities are still struggling with paper records or piecemeal automation – the result of years of stop-go funding and chronic under-investment.

Nurses and junior doctors can spend 30 per cent of their time chasing information, according to John Kane, managing director of Siemens Healthcare Systems, a UK supplier. He says the health sector is more commercially focussed than before, but still devotes only one per cent of its income to IT, compared with four per cent in the banking industry.

"It's widely recognised that the percentage spent on IT has to increase," he says. The industry is not short of ideas on how to spend the money. Telepathology, computer-assisted surgery and high-tech ambulances represent just a few of the applications made possible by recent developments in IT.

Drug development has undergone a similar revolution thanks to computer modelling techniques. "IT is becoming a a key component of pharmaceutical research," says Tony Marchington, chief executive of Oxford Molecular, a UK company specialised in drug design software. "I can see the day when the requirement for 'wet' chemistry to design drugs will be a lot less than it is today."

Oxford Molecular's software aim to speed the process of screening the thousands of new drugs designed each week using computer modelling.

Computers play an essential role in unravelling the mysteries of human genes. Researchers in the Human Genome Project *(see facing page)* are employing powerful supercomputers, such as the two 28-processor Cray Origin2000 systems recently installed at the University of Tokyo, which will be used for DNA research, data mining and molecular visualisation.

The Internet is becoming a vital tool for researchers and, more recently, for the healthcare industry as a whole. Analysts predict US healthcare providers will routinely use the Internet in 2000 to check insurance eligibility status or access patient records.

The Internet can also be used to bring advanced healthcare to a wider market. Last month, US vice president Al Gore and Russian prime minister Viktor Chernomyrdin witnessed Internet-based telemedicine during a visit to Silicon Valley. The two leaders saw a demonstration of an ultrasound examination of a pregnant woman in which the ultrasound images of the foetus were transmitted over the Internet to a standard PC.

"The Internet is literally changing the way we work, live, play and learn, in ways we are just beginning to imagine. One of the most powerful applications will be in the field of medicine," says John Chambers, president and chief executive officer of Cisco, which supplied the Internet routers used for the demonstration.

FT IT

IT in medicine and health services

A seven-page report, highlighting advances in international research and health services, using information technology

In northern France, web browser technology allows the medical records of HIV patients to be accessed by hospitals and general practitioners using remote access technology from Shiva Networks.

New HIV treatments emerge almost daily and a key to improving care for HIV patients is ensuring their files are up to date. The French project, which involves 80 doctors in the Pas de Calais region, uses a centralised database to store the patients' treatment history. Confidentiality is assured by a various security checks.

The European Union has long advocated using IT to reduce the inequalities in healthcare provision across Europe. "The increasing use of IT in the healthcare sector will have a major positive effect," says Martin Bangemann, the Commissioner responsible for IT, who saw the fruits of EU-funded research in health telematics at a recent conference in Barcelona, Spain.

The life expectancy of cancer patients can be improved – by 20 per cent in the case of breast cancer – using best diagnostic and therapeutic practices. One of the projects demonstrated at Barcelona allows pathologists to obtain second opinions online using a network of 50 pathologists in seven countries.

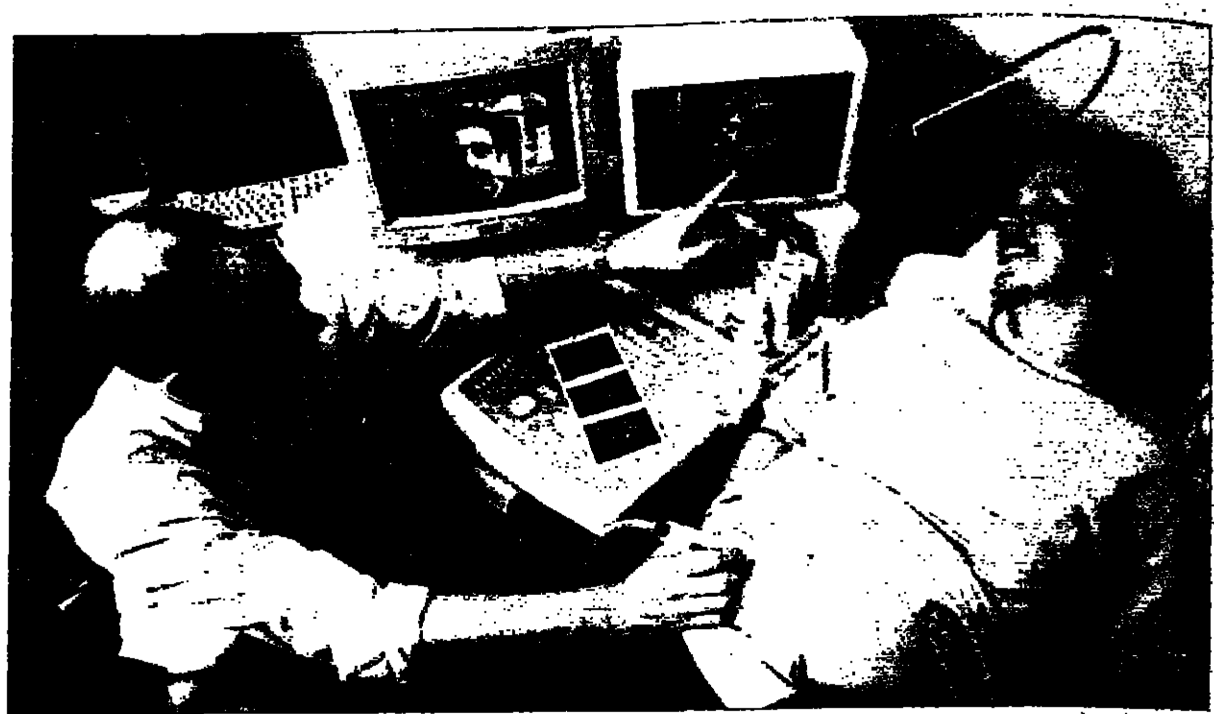
Several EU health telematics projects feature smartcards, an area where Europe has a worldwide lead. One, Cardlink, aims to ensure vital medical information can be retrieved from a smartcard and converted to a different language if an emergency occurs in a foreign country.

Every year in Europe, 1.5m healthcare professionals exchange more than 6bn files. The EU hopes to improve efficiencies by communicating much of this information electronically using electronic data interchange (EDI).

In 14 regions in Europe, up to 25 per cent of healthcare messages are sent by EDI, thanks to another EU project. US consultancy Frost & Sullivan predicts EDI will be widely adopted in the US market, driven primarily by the trend to reduce healthcare costs by doctors affiliating with larger, more competitive organisations.

This generates new IT requirements to improve efficiency and better enable organisations to win cost-based managed-care contracts. The US healthcare industry is painted by its many critics as a giant out of a control which could swallow more than 20 per cent of US gross national product by 2000.

Federal Reserve Chairman Alan Greenspan told Congress last month that Medicare – the publicly-funded old-age health programme – would face "massive strains" when millions of baby boomers retire in the next decade.



Live video link: Dr Richard Manning using revolutionary BT videoconferencing technology at a UK health centre to discuss his patient's unborn child, with Budgie Hussain, senior lecturer in ultrasound at the University of Portsmouth

IT has become a vital weapon in containing costs and US healthcare providers have become an important market for the IT industry – vividly demonstrated by the 650 IT vendors that exhibited at the annual conference of the US Healthcare Information and Management Systems Society (HIMSS) in February. The event attracted 16,000 health IT professionals and is claimed to be largest of its kind.

According to a recent survey of HIMSS members, co-sponsored by IBM, the sector's increasing reliance on IT is driven principally by the need to make diagnostic services available in remote locations – telemedicine – and to offer remote access to patient records. There is also a desire to gain more value from existing data – commonly called data mining – and integrate disparate systems following mergers.

The main priority for the healthcare organisations surveyed is recruiting and retaining high quality IT staff.

Nevertheless, almost one-third of respondents said lack of adequate financial support prevented their getting and retaining IT staff.

Funding remains the root cause of the health sector's many ills, and the IT function unfortunately seems destined to continue suffering the consequences.

BIOINFORMATICS • By Tom Foremski

Boost for drug research

Biological data analysis involves number-crunching on a massive scale

With huge developments costs for creating new drugs and the phenomenal amount of data generated in mapping the human genome and the genomes of pathogens, it is not surprising that leading edge computer technologies are increasingly being applied to biological research in a fast expanding field known as bioinformatics.

Until about four years ago, the term was virtually unknown, but now it is the focus of big efforts by pharmaceutical companies, IT companies and government sponsored research projects aimed at applying the power of advanced computer systems to the challenges facing drug development and genetic sequence matching.

The human genome project *(see facing page)* is largely responsible for the rise of bioinformatics. The human genome has about 100,000 genes containing about 3.5bn base pairs. With a goal of mapping numerous human genomes from different individuals and various environments, at different stages of the human life cycle, the databases required to hold such information quickly become enormous.

Add to that the research in modelling complex proteins and drugs, plus trying to match drug behaviours related to various genes, and a significant challenge emerges in how to handle such massive amounts of data.

The challenge is not in storing the data but in analysing it, looking for various sequences, and combining data from different databases and across geographical areas.

This requires sophisticated pattern matching systems, data analysis tools, visual data mining tools and the development of specialised algorithms that can quickly process the data.

Researchers must also find effective ways of matching data within their own proprietary databases with publicly available databases such as the US-based GenBank and similar databases in Europe and Japan. GenBank, for example, contains data on several million DNA sequences collected from more than 16,000 species and receives tens of thousands of information requests on a daily basis.

The high cost of drug development and clinical testing is another factor driving bioinformatics growth. The US Office of Technology Assessment calculates that it costs more than \$359m to bring a new drug to market, a process that can take as long as 20 years. Shortening this time and reducing the total cost

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GENETIC RESEARCH: The Human Genome Project • By Nuala Moran

Crossing medical frontiers

Information technology is helping to locate common genes between humans and other organisms – even puffer fish and lowly worms

Genetics is about to revolutionise medicine, but to do this it must first harness the power of information technology.

Genetic research is generating such volumes of data that it has spawned its own specialised area of information management called bioinformatics. The main challenge faced by its practitioners is to manage the exponential growth of biological information and bring coherence to hundreds of databases worldwide which have different structures and nomenclatures.

One of the world's bioinformatics powerhouses, in terms both of generating and managing information, is the Wellcome Genome Campus in Cambridge.

This is home to three institutions – the Sanger Centre, the world's largest gene sequencing laboratory, the European Bioinformatics Institute and the Medical Research Council's Human Genome Mapping Resource Centre.

The Sanger Centre is one of the main contributors to the Human Genome Project, which aims to sequence and publish every one of the 100,000 human genes by 2002.

The largest undertaking in the history of biology, this involves determining the exact order of the 3bn bases (chemical units) that make up the genetic code of each individual.

A liquid crystal display in the reception of the Sanger Centre provides a vivid demonstration of how rapidly genomics databases are growing. Across the screen flows a never-ending stream of letters representing newly sequenced human genes.

The automated sequencing process churns out DNA sequences at the rate of 50Mb per second, and at the end of each day this data is loaded on to the Human Genome Project's web site.

The project is an international effort, with the Sanger Centre having responsibility for a sixth of the total genome. With overlaps between genes, this will amount to 550m bases.

"We are working out the sequence of each gene, but we are not finding out in any sense what the genes do," says Dr John Sulston, director of the Sanger Centre.

"Sequencing is only the beginning, but it will underpin medical research for ever. It is the archive researchers will always refer to."

One of the best ways of establishing the function of the sequenced human genes is to look for the same sequence in so-called model organisms.

The centre hopes to complete the sequence of one such organism, the worm *Caenorhabditis elegans*, this year. This lowly worm, a mere one millimetre long, has 100m bases in its genetic code. Many of its genes also occur in humans.

The same is true of another Sanger Centre subject, the puffer fish. Finding common genes, or homologies, between humans and other organisms is rapidly becoming one of the most powerful tools in medical research.

It is much easier to determine what protein a gene codes for, and what the function of the protein is, in worms or fish, than in humans.

It may seem unlikely, but *Caenorhabditis elegans* provides such a powerful tool for developing new drugs and diagnostics that a genomics company devoted to its study, Devgen of Ghent, Belgium, was set up at the beginning of this year. Similarly, Hexagen of Oxford specialises in mouse genomics.

"Comparison of the mouse genome with the human genome is like a searchlight," says Dr Sulston. "You can see regions of extreme similarity and others that are totally different.

"The similarities are functionally very important. In a genetic sense, we are just large mice. Most of the genes function in the same way.

"Comparative genomics is an extremely powerful tool. At the moment we are doing this crudely, but in the next ten years, techniques will be highly refined."

Next door, the European Bioinformatics Institute is developing these techniques. Dr Graham Cameron, head of services, is trying to ensure that biological data held on hundreds of publicly available databases can be compared.

The 100-strong group is responsible for collecting and managing gene sequences and other data such as protein structure and function, produced not just by the Sanger Centre but by academic groups worldwide.

The collection is growing at the rate of one new gene sequence every minute.

At present, EBI's databases cover 20,000 organisms. Forty per cent of the data is human, 8.3 per cent relates to *Caenorhabditis elegans* and 9.8 per cent to the mouse.

The institute exchanges data with its counterparts in Japan and the US every day. There are 100,000 hits its web site each day, a seven-fold increase over 1996.

"Information integration is the challenge of the next decade. We know the sum of all this data is more than the parts, if we can pull it all together," says Dr Cameron.

At present, there is a significant lack of inter-operability between databases. This means that a researcher working on a gene in one organism would not be able to find the same gene in the database for another organism.

There have been international efforts to standardise nomenclature and database structures, but these move too slowly to keep up with the exponential growth in the volume of data and the number of databases.

In view of this, EBI is putting its effort into a more rigorous approach to designing databases. While relational databases have led to a substantial improvement in inter-operability, Dr Cameron is now looking to object oriented programming to standardise the interfaces between databases.

"If we can get agreement on common interfaces, we don't have to deal with what goes on inside the database," he explains.

EBI is spearheading a European effort to make databases inter-operate using the open industry standard, the Common Object Request Broker Architecture, (Cobra). "The aim is to create bridges between databases, even if they are radically different in structure and nomenclature."

The institute is also using Java to build tools which will give researchers a means of interrogating any database, regardless of its format.


Laboratory technician at Therexsys, the UK-based gene therapy company

BIOINFORMATICS

Benefits for patients worldwide


Molecular modeling on computers: opening the way for big advances in the development of biologically active compounds

From facing page:

has large payoffs for pharmaceutical companies that makes it easy to justify expenditure on sophisticated bioinformatics systems.

With bioinformatics systems, researchers can analyse the genetic sequences of pathogens and help identify which drugs or types of drugs might be effective treatments, dramatically cutting down laborious and expensive clinical trials which might lead to the development of miracle cures.

Silicon Graphics (SGI), the US computer systems company, is one of the leading providers of sophisticated computer systems for bioinformatics applications. "About two and a half years ago, we recognised that bioinformatics would become a very important market and we began making major investments in this area," says Dr Juli Nash, biology market manager at SGI.

"Our systems were already being used for visual modelling applications at large pharmaceutical companies so it was a natural progression for us to move into bioinformatics. We work constantly with software developers and customers to try and understand their needs."

SGI systems use powerful MIPS microprocessors and proprietary technology to offer scalable high performance systems that can host demanding bioinformatics applications. The company also offers specialsed software tools use for data analysis. "Our Mineset data-mining tool, for example, helps researchers sift through enormous amounts of data. And with our visualisation tools, researchers can analyse their data quickly and much more effectively than in the past," adds Dr Nash.

In many ways, the needs of the bioinformatics community is similar to that of users in other IT areas, how to analyse large amounts of data and distribute that data within an organisation that may be spread across several different locations.

Internet-based technologies such as web servers and Intranets play a big role in this process, another key area of expertise for SGI.

"A typical bioinformatics systems will consist of about three servers, one to hold the databases, a second to act as a backup system, since users require 24-hour availability, and a third to provide application support, connected to a large network to distribute the information," says Dr Nash.

With genetic databases doubling in size every 12 to 14 months, it is also important to be able to add computing resources easily without having to redesign or install new systems. SGI says that with its scalable systems it is relatively simple to expand a bioinformatics system.

Some companies in this area are taking a more specialised approach. Paracel, the US-based company, for example, has developed special VLSI (very large scale integrated) chips that are specifically designed to process quickly genetic sequence matching.

Paracel's GeneMatcher system is described as a supercomputer for drug discovery applications, offering as much as 1,000 times the performance over traditional computer system applications.

"One of our VLSI chips has 48 processing cells, with each cell working as fast as a general purpose microprocessor – so by using such chips in multiple, parallel processing architectures, we can offer very high performance," says Richard Diephuis, vice-president of engineering at Paracel.

"We've also developed sophisticated algorithms that further speed gene sequence matching operations."

With supercomputer performance, researchers using the GeneMatcher system are able not only to run their algorithms faster but they can run more of them, thus dramatically improving data analysis.

The result of such advances in bioinformatics will be not only the faster discovery of key drugs, but it will also reduce the price of the drugs, benefiting patients worldwide.

HOSPITAL COMMUNICATIONS • By Tom Foremski

IT offers a wealth of opportunities

Wireless networks are a key focus because they offer many advantages for healthcare organisations

Wireless networks and portable computing devices are finding a growing niche in healthcare systems, especially in the US where the healthcare sector is undergoing significant consolidation as hospitals seek to contain rising costs.

The US hospital communications market, which includes wireless technologies, is predicted to grow at a compound annual growth rate of 30 per cent between 1996 and 2003, by which time it will be valued at about $2bn, according to the market research firm, Frost & Sullivan. Much of the growth will be in wireless communications and video-conferencing systems.

The main impetus for growth is to cut patient-care costs while at the same time improve patient-care as the baby boomer population ages and requires more healthcare services. Industry observers, however, warn that while good business opportunities abound, competition is fierce.

"Since the hospital industry has many needs and is an ideal vertical market for many (IT) products, many companies are vying for leadership," says Frost & Sullivan senior analyst, Alpa Shah. "In addition, the limited monetary resources of this industry make it even more difficult for companies to compete for hospital budget dollars."

The availability of money is not the only issue. Many healthcare providers have antiquated IT systems. A recent survey by KPMG Consulting found that about 52 per cent of US healthcare providers and related organisations cited a lack of a technology infrastructure and the lack of implementing technologies as a key barrier to adopting new IT solutions.

This situation is rapidly changing and healthcare organisations are increasingly embarking on ambitious IT investments as they seek to take advantage of key developments such as wireless networks.

Wireless networks are a key focus because they offer many advantages for healthcare organisations. Because these networks are wireless, they save considerable amounts of money simply due to the fact that there is no need to lay wires. And as the organisations' needs change, there is no need to rewire facilities to add new users.

Another key advantage of wireless networks is that medical staff can gain easy access to a patient's data even if they are located in an office as far away as three miles from the patient. And as they visit patients, they can update records, recommend medication and fill out paperwork at the patient's bedside, making it easier to consolidate data and reduce the risk from transcription errors.

Lucent Technologies, for example, offers its WaveLAN wireless network, which has found applications in several major hospitals. WaveLAN uses 'spread spectrum' technology which enables it to be used in a variety of settings with fewer problems of interference from building structures and items such as metal filing cabinets or microwave ovens.

Along with improvements in wireless networking technologies, there have been new developments on the client side, in terms of cheaper and more effective portable computing devices with wireless data links.

Wyse Technology, for example, offers its WinTerm 2930 portable computing device, which is a notebook sized computer weighing about 3.4 pounds with a colour LCD touch screen display. It supports' Citrix WinFrames technology which gives users wireless access to Windows 95 and Windows NT based applications.

> Lack of funds and facilities hinders the adoption of new systems

The WinTerm 2930 is being evaluated by several large healthcare organisations in pilot projects that could lead to big orders for Wyse.

"There are number of interesting applications that customers are exploring for the 2930," says Roy Graham, senior vice president for sales and marketing at Wyse. "One of these is a drug-cart application. When patients receive medicine, their records are updated. This makes the process more accurate plus it reduces the amount of medications that need to be stocked. We're working with several leading US and European pharmaceutical companies on such applications."

Wyse plans to improve the WinTerm 2930 later this year with additional models that feature a larger screen and include a keyboard.

Microsoft has also been encouraging the development of low-cost portable computer devices based on its Windows CE operating system and this is in turn, is encouraging developers to offer Windows CE applications designed specifically for the healthcare industry.

For example, earlier this year, the US company, Proxim, introduced its RangeLAN2 wireless data network with support for handheld Windows CE based devices, providing users with a real time link to patient records via the popular Compendia electronic medical record system from Physix.

Proxim says that its wireless network system is installed in more than 300 healthcare centres worldwide. Providing support for Windows CE devices will also bring down costs since such devices are cheaper than Apple Computer's Newton MessagePad, which also runs Compendia, but is being phased out by Apple.

With RangeLAN2, customers can use a Windows CE-based handheld computer to access a Microsoft NT server with an SQL-based patient database to gain access to patient records through industry-standard applications.

In the future, wireless networks may make it possible to hook up diagnostic equipment from the patient directly to a hospital's network, allowing doctors to check a patient's progress remotely, activating drug delivery mechanisms when needed. Such systems may also be used in the home extending a trend toward shorter hospital stays.

"The healthcare sector has traditionally been slow-moving at accepting new technologies. Most patient records are still paper-based," notes Mr Graham. "But it's changing – we see lot of opportunities and are excited at the progress of some of the pilot projects."

NETWORKS • By Alan Simpson

Farewell to data in cardboard file folders

Not so long ago, patient files were bundled up into recycled cardboard folders and shuffled round interminable hospital corridors and wards.

Today, those folder delivery trollies are being replaced by high-technology systems. Patient's records are more likely to be delivered courtesy of a computer server and local screen than a porter or nurse.

While 'patient-flow' is being speeded-up, so, too, is data-flow – though there is still plenty of scope for faster implementation throughout many health administrations, according to Dr David Scott, an international health consultant.

"Much time will be saved when all European hospitals move from low bandwidth networks [more megabits than gigabits]. Such network implementation will speed the transmission of patients' records, both within the hospital and out to the patient's local doctor – an essential factor if electronic health records are to be fully achieved."

Data traffic is the dominant driver of corporate broadband networks. By 2002, around 90 per cent of worldwide corporate traffic will be non-voice, compared with just 10 per cent in 1992. This rate is increasing with information flow in formats such as video, data, text, graphics and voice.

Jurgen Beer, of Bosch Telecom, says that liberalisation and technological advances are changing the structures of health telecoms more than ever. "The migration from conventional telecom networks to integrated networks with voice, video and data capabilities is exercising the minds of data operators round the world," he adds.

In the UK, the Royal Pharmaceutical Society (RPS) have no doubts about the benefits of high speed data networks – "the case for greater access to patient information is overwhelm-

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CASE STUDY: Rapid access to hospital data • By Geoffrey Wheelwright

Integrated system boosts efficiency

In a world where healthcare funding is increasingly under pressure, hospitals have to find the ways of squeezing the highest value out of every penny they receive. Finding better ways to manage documentation – and improve access to data – is becoming a key element in this struggle.

At Llandough Hospital and Community National Health Service Trust in the Welsh region of West Cardiff and the Vale of Glamorgan, both of these challenges are much in evidence. Llandough Hospital needed to find an IT system that would further improve patient service, provide better data access for doctors and nurses, maintain patient confidentiality and release more bed-spaces by quickly identifying patients ready to go home.

All of this had to be achieved as an interim 're-fit' of the trust's computer system, which will soon be overhauled to investigate and solve the year 2000 computer date issue. According to Rhys Wyn Evans, the trust's director of information services, "we have to replace the main patient information system well in advance of the year 2000 and are considering the usual procurement routes."

Meanwhile, the trust needed an interim solution "that would allow us to increase the functionality of our systems at an affordable cost." The task of making this happen fell to Simon Gillings, the project/systems manager at Llandough Hospital.

The key to this effort was finding a consistent and reliable method of integrating data from three very different sources – the hospital's pathology, radiology and patient-administration systems, he says.

Test results

"The aim was to find the best way of getting information from the trust's various reporting systems to the people who need it: the staff who are on the wards," says Mr Gillings. The trust wanted to give doctors swift access to pathology test results, thus speeding up decisions on treatment and patient-release.

To achieve this, the hospital implemented a system called 'Casablanca' from Gresham Computing, in January. The results have made a big difference, says Mr Evans. A key benefit is that Casablanca provides a single point of reference, at the treatment location, for three of the most important hospital systems.

It gives ward-based medical staff the most up-to-date patient information. Patients who are ready for discharge can be promptly released, thus helping to cut costs.

Before the time-saving system was installed, doctors needed to phone lab staff and write down research results. Pathology lab staff also had to phone-in results, or fax them, in response to doctors' requests. Now, authorised healthcare staff can rapidly access the system, using a standard Web browser – in this case, Netscape Navigator. "Staff just fill in the information request form in a browser with patient's name and number," says Mr Gillings. "It is consistent across all three disciplines – radiology, pathology and patient administration."

In implementing the system, he had to ensure doctors' concerns about patient confidentiality and security were properly addressed. Once this was achieved, reaction to the Casablanca system "has been very, very favourable – better than I could have expected," he adds.

Staff at Llandough Hospital in Penarth, Wales, are trained on the new system that brings together data on pathology, radiology and patient-administration

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CASE STUDY: Hospital wireless network • By Tom Foremski

'Little buddies' to the rescue

Nurses use computerised drug carts, linked to a wireless network – they nickname them 'little buddies'

The US wireless data network company, Proxim, has more than 300 installations of its RangeLan2 wireless network in healthcare organisations around the world. Using a spread spectrum technology, RangeLan2 systems offer a secure and reliable wireless network without requiring strong signal strength that might interfere with sensitive hospital equipment.

Although there have been documented cases of radio frequency devices such as cellular phones and other communications equipment interacting with electric wheel chairs, heart pacemakers and medical monitoring equipment, Proxim says that it has had no reported incidents of its RangeLan2 system affecting any hospital equipment, and its wireless networks are sometimes used in sensitive environments such as intensive care units.

With spread spectrum technology, the RangeLan2 transmitting devices use about 0.1 watt and by transmitting across a wide spectrum and changing frequencies every 0.2 seconds, it minimises the chances of interference at a specific frequency. Proxim says that a portable cellular phone can generate 10,000 times the signal strength of its transmitters.

St. Joseph Hospital, located in Denver, Colorado, selected Proxim's RangeLan2 system to help manage its operating costs and improve patient care.

The obvious benefit of wireless local area network [Lan] technology was the cost-savings of not having to purchase, install, network and maintain a huge number of PCs. But the advantage goes far beyond just the initial equipment cost. Entering information directly into the network reduces the time nurses spend re-entering hand-written information into a central terminal, and reduces the chance of transcription errors, says Douglas Hahn, manager of information services at St. Joseph's.

As a managed healthcare hospital, St. Joseph's has to perform a wide variety of patient procedures at a pre-defined cost, often for less money than it used to charge, forcing it to look for ways to do the same job as effectively but at a lower cost.

The 100-year-old hospital decided it would use technologies such as RangeLan2 to bring IT closer to the point-of-care. The initial goal was to allow nurses to directly input data into the hospital network from the patient's bedside. With 600 beds, the hospital decided to replace a mainframe based network with Ethernet-based local area networks and place PCs in each hospital room.

On closer analysis, the hospital's IT staff realised that although this plan would provide nurses with bedside access to patient data, it would be extremely expensive and disruptive to hospital operations to install network cable, especially in an older building, and also install large numbers of PCs.

Using dumb terminals would save money on desktop PCs, but it would limit the effectiveness of the system since nurses needed access to PC-based applications and the mainframe database. And there were concerns that the fan noise from PCs would disturb patients and leave the unattended PC open to tampering, raising security and legal liability issues.

The solution was to develop a special nurses' cart to contain medical supplies and carry an NEC laptop computer equiped with a RangeLan2 PCMCIA wireless Lan adapter. Fifty carts were made and equipped with NEC laptop computers which hospital staff nicknamed "little buddy." The wireless network consists of ten RangeLan2 access points distributed throughout the building.

Using a special software application, nurses input patient information into the portable computer, which transmits data to the hospital mainframe, replacing the previous method of using paper records which were later entered into the mainframe computer.

And since the portable computers are never left unattended, there is less of a security issue. For example, there was a case in a Florida hospital where someone gained access to a stand-alone PC in an Aids ward and published confidential patient information on the Internet.

"Although there is often resistance to new technology, we were able to quickly set up the system, so it wasn't a burden to the nurses. It has been very successful," says Mr Hahn.

The hospital plans to extend the wireless network to other departments including linking surgery rooms.

AWARD-WINNING PRESCRIPTION SYSTEM • By John Kavanagh

Enthusiasm abounds

UK project streamlines the world's largest prescriptions database

England's Prescription Pricing Authority is all about big numbers. It has 1,000 data entry staff keying in the details of every National Health Service (NHS) prescription dispensed by any pharmacy. This amounts to around 2.5m items every day, or well over 500m a year, worth a total of £4.5bn.

The trouble is that this means equally large amounts of information are potentially available to doctors, pharmacists and NHS managers. The authority has the biggest prescribing information database in the world, an IBM DB2 database providing 1.8bn records for analysis.

As a result, general medical practitioners have been getting quarterly reports running to 500 pages or more on all the drugs they have prescribed. They have also been sent monthly budget statements.

"Like most busy professionals, GPs have a limited amount of time to do detailed analysis of paper information – and information in this form does not easily enable trend analysis and comparisons between colleagues or peers," says Stuart Lynn, who last year led a project to make the information available electronically.

"Such analysis could be significant: if it reduced medication costs by just 1 per cent this could represent a saving of £50m to the NHS."

The project aims fell into two broad categories:

□ The team wanted to make a system which was easy to use and provided timely access to information on their own prescribing; and helped them use their time more effectively. The simple access has been provided through the use of Microsoft Windows.

□ The second category of aims related to costs. "The system was to help doctors choose the most cost-effective medication for their patients without detriment to patient care," Mr Lynn says. "It would help them manage, audit and review their prescribing habits to help them both monitor the use of new and expensive drugs and also establish best practice and monitor their compliance."

Mr Lynn's team used the Prince project management method, a structured development method and both rapid application development and object-oriented techniques, working initially with a group of users to confirm the requirements.

Growing numbers of doctors are now being brought on to the system, mostly dialling in through modems, with a few having fast digital ISDN links. They retrieve their part of the database and use a mouse for simple selection of time periods, prescribers and drugs.

With the help of electronic information, medical teams can now select the most cost-effective medication for patients

Different analyses are available, such as by drug cost, by volumes, by doses and by ratios of patients to GPs.

GPs can do detailed analysis on the prescribing of any specific drug, group of drugs or whole drug categories, and compare them over any time period, with the results presented in graphical and tabular formats.

GPs not only *can* do such analyses: they *are* actually doing them. This is partly thanks to the preparation done before the launch.

A pilot system was set up with 36 practices. Its use was closely monitored and the facilities were amended as necessary. In addition, an independent evaluation of the use of the system was commissioned from Liverpool University.

"This evaluation showed that all the pilot practices found the system beneficial," Mr Lynn says. Overall, the system considerably speeded up the analysis of prescribing. GPs were monitoring the use of high-cost drugs and areas of most concern in prescribing.

"They identified areas where other products reduced costs, with no detriment to patient-care," he adds. "They were auditing the use of groups of drugs in the same therapeutic area, and identifying drugs of limited value. They highlighted variations in prescribing practice among GPs in the same practice."

Doctors confirm these findings. Dr David Kernick in Exeter, who described his practice's response as "ecstatic", says the system altered prescribing habits, in particular by highlighting the large number of angina sufferers who were being given pain killers, when aspirin was enough.

Dr David Lyon in Runcorn uses the analysis to go even further. "We used the system with our computerised patient records to identify people suffering from particular conditions," he says. As a result, specialist clinics led by nurses have been set up for rheumatoid arthritis sufferers, and GPs have been saved the time of organising blood tests and monitoring drugs: this is now done by nurses working to an agreed protocol developed by the GPs and local consultants.

The system has been taken up by 100 health authorities and by the NHS Executive, and is being continually rolled-out to local practices.

The large numbers involved here are creating some problems of installation, support and maintenance. Mr Lynn's team is therefore looking at providing the information online across an intranet, run over the NHS network, rather than getting users to dial in and retrieve their databases from the central system.

The intranet approach would mean users would simply need Internet browser software and even so-called 'thin client' devices such as cheaper, stripped-down network PCs.

The project team was rewarded for the success of the system when it won a medal in the UK's prestige IT Awards, run by the British Computer Society, to publicly recognise excellence. But perhaps the team's greatest reward has come from the enthusiasm of the users. "The more we use the system, the more things we think of to use it for," says Dr Lyon in Runcorn. "It's just snowballing."

Such comments are the highest prize for any system developer.

PHARMACEUTICALS • By Joia Shillingford

Software opens the door for drug discoveries

Rising computer power speeds up the progress of pharmaceutical research

What do cheminformatics and bioinformatics have in common? Both help pharmaceutical companies discover new drugs. And both rely heavily on information technology.

Bioinformatics *(see report on page four)* is the application of IT to all aspects of molecular-biology based research, explains Chris Rawlings, UK director of bioinformatics at SmithKline Beecham Pharmaceuticals. "It sits at the border between computer science and molecular biology."

One use of bioinformatics is to gain meaningful information about the way genes work from the vast quantities of data coming out of the publicly-funded human genome project *(see page five)* and other public and private databases.

The information, especially on gene markers which indicate disease, can then be used to develop new drugs. Another use of bioinformatics is to analyse protein sequences.

A gene that carries out a given function will vary slightly from one person to another, so software is needed to find very similar genes. Genes are represented as strings of characters (letters), so software based on spelling checkers that can search for character strings plays a big role in bioinformatics.

Software

Also key to bioinformatics is software based on continuous speech recognition technology. Originally designed to recognise similar pronunciations of sounds, academics recognised that this could be adapted to search for similar gene sequences.

This is because continuous speech recognition software involves the use of complex algorithms, known as hidden Markov models, that can provide a useful statistical model of a complex gene-sequence-protein pattern.

"Software is also needed to cluster similar genes, so that the genes that are the most different from the others will stand out," says Tony Wilkinson, head of the biomolecular design group at Zeneca Pharmaceuticals in the UK.

"We're using a lot of techniques to find out the genes role," comments Mr Rawlings. "It's almost theoretical biology. For example, we're using computers in the early stages of identifying the molecules within a cell that we want to target. And we use specialist database techniques to compare new data with what is already known. There are many years of data on known genes."

There is a close link between bioinformatics and cheminformatics (or chemoinformatics). Once a pharmaceuticals company has identified a protein within a target molecule it wants to inhibit in order to cure a disease, it needs the right combination of chemicals.

Cheminformatics is the application of some of the newer technologies to what is known as combinatorial chemistry, based on the assumption that the greater the variety of chemical compounds tested, the greater the chance of finding one that can be developed into a new drug.

It involves building up lots of different combinations of chemical compounds – taking a variety of starting points. As with bioinformatics it involves processing huge amounts of data.

Dr Philip Loftus, director global R&D at Glaxo Wellcome, says: "Increasingly, it is possible to predict the properties of compounds without actually making them. By using computing power similar to that needed to model oil fields or weather patterns, we can look at large numbers of compounds that bind only weakly to their target, and then determine the characteristics that a better drug will need."

The company has introduced parallel screening, where hundreds of compounds are evaluated in parallel using rapid, predictive tests. Typically these tests look at the potency of the candidate drugs, their selectivity for their target, how they are absorbed and metabolised, their tissue penetration and their potential carcinogenicity.

For example, in a Glaxo obesity project, large combinatorial chemistry libraries were screened and smaller, focused libraries generated around the most interesting hits. Then 120 compounds were evaluated in parallel and one selected. This took 40 'chemist-weeks' and four biologist-weeks as opposed to the 660 scientist-weeks it would have taken under previous methods.

Typically, such tests involve serious number crunching because compounds and their behaviour are usually represented mathematically.

However, Mike Hann, a biomolecular expert, at Glaxo Wellcome, says virtual reality is useful in cheminformatics, too, because chemical compounds have a handedness (that is, like humans one side is not identical to the other). By wearing goggles and viewing them in three dimensions it is possible to get a better understanding of how they work.

Glaxo also uses 3-D modeling software from US workstation company Silicon Graphics. Mr Hann says the UK computational science department alone spends £2m-£3m a year on software and computing equipment.

Pharmaceutical companies tend to use a combination of off-the-shelf software, customised packaged software, and software designed in house. "Because we're researchers coming up with new ideas, we often find that what we want to try can't be done with a commercial package," says Mr Hann.

"But a few years down the line, packaged software that does the same thing will be available commercially." Lots of IT and software houses have sprung up to serve the bioinformatics and/or cheminformatics fields. They include UK-based companies Oxford Molecular and Chemical Design and US companies: Molecular Simulations, Daylight Chemical Information Systems, Molecular Design (MDL) and Tripos.

Academic links

Many of the companies that exist have been set up by former academics and tend to retain close links with university research departments. In fact, both bioinformatics and cheminformatics were originally university disciplines, but have become far more popular in the last five years.

The end-result of the drug discovery phase is to produce a large number of new drug candidates. "The rapid rise in computer processing speeds has revved up the front-end of discovery," says Mr Rawlings. "It has led to an exponential increase in the number of new drug candidates."

IT is also proving useful – in the form of decision support software – to help pharmaceutical companies choose between them.

"In bioinformatics, the first new products are likely to be in the area of diagnostic products that detect the genetic markers that indicate various diseases," says Mr Rawlings.

"Genetic markers may even be able to indicate the likely side effects of a drug given to a person with a particular genetic makeup. The goal is targeted health care."

Cheminformatics is likely to improve drug discovery by increasing the efficiency with which new leads are generated, optimising previously identified leads and finding new target molecules.

Dr James Neidel of Glaxo Wellcome believes that this is the third generation of pharmaceuticals R&D, "in which we are using genetics, robots, computers and miniaturisation, to move to a more predictive phase."

HOSPITAL NETWORKS

Improved way to manage resources

From facing page:

ing," says the society. Access to full medical records on a need-to-know basis is fundamental to the future development of the health service, the society believes.

Meanwhile, the linking of pharmacists and other health professionals in the UK to an electronic network – the NHS-net – is vital, says the RPS.

For hospital doctors, the benefits of data network benefits can be easily demonstrated, says Tandem Computers which supplies more than 200 hospitals and healthcare centres worldwide. These systems help provide faster and more accurate diagnosis, plus rapid access to patient records.

According to IDX, a leading US provider of IT systems to the healthcare industry, data networks are essential to efficient hospital management for tasks involving contracts, the tracking of benefits, adjudication of claims, and the supply of rapid information to the point-of-care.

Data networks also have a key role to play in clinical measurements, an area where companies such as Hewlett-Packard providing patient-monitoring systems. HP systems can involve up to 500 connectivity devices being used to route clinical data round a hospital system.

Electronic mail services and intranets (private networks, based on Internet technology) are becoming increasingly important in the medical world. In the UK, for example, Pinderfields and Pontefract hospitals in Wakefield, has installed an internet, running on the BT data network, NHS-net.

Peter Kidd, head of IT at Pinderfields and Pontefract hospitals, says that the hospital trust launched an initiative to publish medical text and graphics on the hospital network, even before the term 'intranet' was coined.

The system has since evolved, bringing an array of improvements to all hospital departments. For example:

□ Business managers are now able to monitor resources more efficiently, especially in the key areas of bed-availability and waiting lists.

□ Clinicians share medical papers, ensuring patient-care is fully up-to-date.

□ E-mail enables consultants and medical researchers to share the latest medical developments around the world. For example, a trust consultant in plastic surgery is using the facility to work alongside a medical team in South Africa.

DEFUSING THE MILLENNIUM BOMB • By Joia Shillingford

Shortage of time and money

Computer systems in healthcare are heavily date-dependent – and many may not work beyond the year 2000

Many hospitals around the world face two significant problems in dealing with the year 2000 computer date problem – the first is time, the second is money.

In the UK, the National Health Service is no exception in this race to defuse the so-called 'millennium bomb.'

The year 2000 issue affects a whole range of healthcare systems from accounting software and patient waiting lists to computers on desktops to mission-critical systems with embedded chips, such as heart-monitoring equipment.

In the US, IT researchers at the Gartner Group estimate the global cost of solving the year 2000 problem (sometimes referred to as the Y2K issue) could be between $400bn and $600bn.

"National Health Service hospitals have been asked to submit budgets for fixing the date problem by the end of March – and to fix any really important items by the the end of the year," says Robin Guenier, executive director of the not-for-profit body Taskforce 2000.

At the time of writing, no NHS budgets had been received.

But when budgets are put together, there is still the problem of where the resources are to come from to fix their systems.

Meanwhile, Frank Dobson, the UK health minister, has urged hospitals to press on with fixing the year 2000 problem. But at the time of writing there has been no mention of extra money.

The year 2000 problem affects software written with a two-digit date field – for example, '95' for 1995. But at midnight on December 31, 1999, when the digital clock hits '00' for the year 2000, computers may not recognise the date – and crash.

There are even embedded chips in some lifts that will not work after the year 2000. And whereas in a small office block, staff might be able to use the stairs, in hospitals, if lifts do not work, patients cannot be moved to the operating theatres in time.

The Department of Health's Medical Devices Agency warned NHS hospital trusts in an internal executive summary last year that "as with other risks, prioritisation is needed [for sorting out the millennium 'bomb'], having due regard for competing demands."

What this means is that fixing monitoring equipment, such as kidney dialysis machines and intensive care cots, is likely to win priority over lifts and administrative software. Professor Mike Smith of London's St Bartholomew's Hospital warned last year that between 600 and 1,500 people could die as a result of an expected 10 per cent failure of health service equipment in the year 2000.

> 'Time is tight, resources are thin – and we're approaching an emergency,' says Robin Guenier

It is not yet known how much money is needed to fix NHS systems. However, Mr Guenier says that in the private sector "all the indications are that remedying year 2000 problems will cost £1,000 to £3,000 per employee."

A Cap Gemini survey has confirmed this putting the average cost per head at £1,950. Looking at what large private-sector organisations will be spending, Unilever has allocated £250m-£300m to defusing the 'bomb'. Britain's top four clearing banks, including Barclays, will together spend around £1bn, according to Mr Guenier.

By contrast, the public sector is planning to spend less than £1bn to fix its millennium problems, a figure Cap Gemini sees as a huge underestimate. Public sector organisations are spending about £400 per employee. Mr Guenier says the health service alone employs 750,000 – and using £400 as a rule of thumb, it would need an extra £300m. Worse still, the money should really be found and spent in the next 12 months.

It is even possible that once the sums are done, solving the NHS's year 2000 issues will turn out to be as expensive as fixing private sector ones, or more so. This is because many NHS systems, such as those for patient-booking, are based on proprietary technology.

Some experts believe the real cost of defusing 'the millennium bomb' for the NHS will be closer to £1.4bn, a view shared by Mr Guenier. The situation could be particularly difficult, he adds, because there is no commonality of systems in the NHS. Local areas have used their own initiative; so some may be using software produced by local companies that no longer exist."

It is also possible that some of the IT disciplines imposed on the management of systems many not be as rigorous as, say, in some of the bigger banks which have more money to spend on IT, he adds.

"Allocating scarce NHS resources to fix the problem will require very good management. I'm not sure if the NHS has enough managers who are up to it," says Mr Guenier. There are, of course, private sector consultants, but these are becoming "enormously expensive due to heavy private sector demand for help with the millennium bomb".

Moreover, many of them are already booked up way in advance. Mr Guenier says: "A year ago, I warned Margaret Beckett, the new board of trade president, that no-one was going to thank the Labour government if the City of London scooped up most of the IT resources and patients suffered. The problem is that even if government allocates more money to fixing NHS millennium problems, it may be difficult to find the resources.

"I'm not sure what the answer is," he says. "There's a glimmering sense that the government is becoming aware of the problem. But it is time for them to start coming up with ideas."

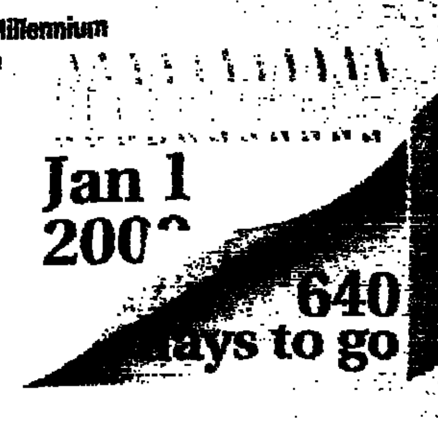
This week, Don Cruickshank, Action 2000 chairman, held a meeting of date-change experts from public infrastructure services to draw up national contingency plans. Experts included representatives from the health and emergency services.

"The possibility that NHS systems won't be compliant on time, is perhaps more disturbing than any other impact of the millennium bomb," comments Mr Guenier. "So many people depend on the NHS.

"Many NHS systems just won't work after the year 2000. And so many of its systems are heavily date-dependent. They include the birth dates of patients, when they are due for treatment, when they are due for another dose of a particular drug, when the stock in hospital stores needs replenishing, ambulance scheduling systems, and so on.

"Time is tight, resources are thin – and we're approaching an emergency."

The Millennium Bomb



HEALTH INFORMATION ON THE INTERNET • By Joia Shillingford

From the poignant to the banal

Although support groups abound in cyberspace, the Web is no substitute for seeing a doctor

There is a wealth of health information on the Internet – mostly free. For example, you can obtain the latest Reuters medical headlines on the search directory Yahoo. Or e-mail questions to Dr Andrew Weill or even to the well-known sex therapist, Dr Ruth Westheimer.

Information ranges from the fascinating – for example, should you be worried about your health if you pass out during orgasm (Dr Ruth's site) – to the banal: What is male pattern baldness?

There's a *Complete Home Medical Guide* published by Columbia University College of Physicians and Surgeons, which is fairly straightforward and an entire site dedicated to children's health, *KidsHealth*, with information provided by pediatric experts at the Nemours Foundation in Philadelphia.

There are also sites – including Dr Andrew Weill's – where you can find out about nutrition or order vitamins. Another site has a schedule of talk-ins where you can send online questions on specified topics. For example, at 5pm Pacific time one evening, a so-called 'wellness expert' will be online. Another day there will be a physician, and so on.

Then there are sites for medical professionals, such as the *Doctor's Guide to the Internet*, which trawls the Internet for useful medical sites and gives details of new medical news and conferences.

The Net has several pluses for health nuts and patients. *First*, if you are too shy to ask your doctor something, you could always look it up on the Internet – or send in a question by electronic mail. If you are too shy to send an e-mail, you can still look at transcripts of previous question-and-answer sessions.

Second, you can look at information that is usually only available to doctors. You can also obtain anecdotal information from newsgroups and support groups about others' experiences with particular treatments.

There are a large number of support groups on the Internet: a trip to *support-group.com* provides an alphabetical list of groups for almost every disease.

A visit to a support bulletin board will reveal how many new messages have been 'posted' within a given timeframe, so it is easy to discover how active the group has become.

Some entries in the cancer support groups are poignant, but could be helpful: for example, one woman who had been through breast reconstruction surgery was offering to discuss it with another, who was thinking of having the operation. And, in one of the asthma support groups, another Internet user was recommending bee pollen as a cure.

Not everyone finds these groups helpful, though. In fact, gathering health and support information on the Net does have some pitfalls.

Furthermore, the Internet is not that secure, so users should bear in mind that they may be leaving a trail of their health interests behind, with web site owners. This may not matter. But, on the other hand, if they are researching an obscure sexual disease, web users may want to keep that fact to themselves.

Posting questions in support groups may also involve revealing very private information, which can be read by millions. One way round this might be to pay for an extra mailbox and use an alias.

Finally, health information on the Net is not necessarily reliable. And even reputable sites warn that reading their information is no substitute for seeing a doctor. "There's a lot of junk on the Net, too, and a lot of stuff parading as objective information," says Lynne McTaggart, editor of the newsletter, *What Doctors Don't Tell You*.

One factor to consider when looking at information, is *who* is sponsoring it. For example, if a site is sponsored by vitamin suppliers, its nutritional advice may involve recommending lots of vitamin pills.

Similarly, someone recommending a prescription drug in a support group, could be from a drug company. Still, there are checks you can do: for example, most web sites have an 'About Us' section, which tells you about the site's owners.

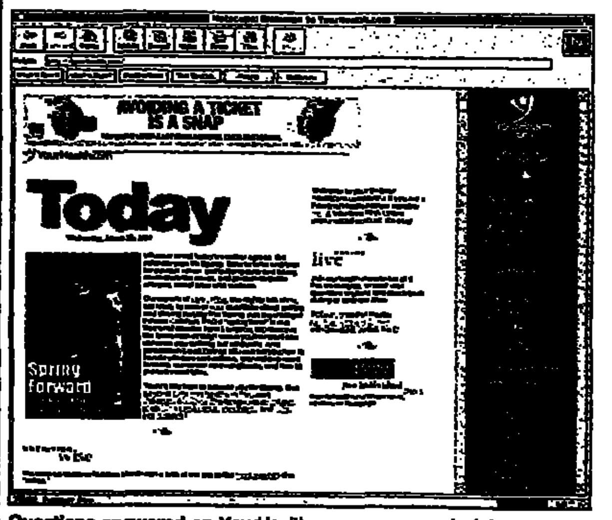
If you are seriously thinking about following the advice on the web, you could also check any phone numbers listed on it.

Eventually, more health sites will start charging – so the Net is worth a look while the information is free. "There are some marvellous self-help groups," says Ms Taggart. "And groups sometimes form around a medical disaster, such as arachnoiditis, (caused by a spinal X-ray dye)."

The Internet is subversive, too, she adds. "It's information *by* patients *for* patients against the medical establishment."

Useful Web sites

- ☐ Web-users can reach Reuters' medical headlines via the Yahoo online directory. Go to Yahoo, click on health, and select Reuters Health News. There are also plenty of links to other medical sites. Alternatively, this directory, or one of the others such as Lycos or AltaVista, can be used to search for information on a specific disease. *www.yahoo.com*
- ☐ Complete Home Medical Guide: This is essentially a textbook published online. See the *resources section* on *cpmcnet.columbia.edu*
- ☐ Ask Dr.Weill: Users can e-mail health questions to Dr Andrew Weill, or look at the top 10 most commonly asked questions. They can also e-mail questions to Dr Ruth Westheimer. *www.cgi.pathfinder.com/DrWeill*
- ☐ Doctor's guide to the Internet: aimed at professional physicians, this site includes a list of other useful medical sites on the Net – updated each week. *www.psigroup.com/docguide.htm*
- ☐ What Doctors Don't Tell You: This newsletter is planning a paid-for web site in the next few months. Lynne McTaggart is on electronic mailbox. Internet: *wddty@zoo.co.uk*
- ☐ Online Questions and Answers: This site provides a list of times when you can io questions online. Website: *www.YourHealth.com*
- ☐ Children's Health: sponsored by the Nemours Foundation and created by pediatric medical experts at Alfred DuPont Hospital for Children in Philadelphia, this site includes information for parents and children. It also has stories written by children on what it is like to have particular illnesses. *www.KidsHealth.org*
- ☐ List of support groups: Alphabetical listing of support bulletin boards for different illnesses. *www.support-group.com*
- ☐ Compuserve also has a UK medical forum for patients and doctors, accessible to Compuserve users by typing Go *UKmedical*
- ☐ As well as debates and self-help areas, the Compuserve online service says its medical forum includes information on how to get the best treatment from local GPs.
- ☐ Compuserve also offers access to a variety of databases (some for a fee) on medicine and health, and access to Aidsline and CancerLit.
- ☐ Public Medline: Searches through nine million references in the Medline medical database, free. *www.ncbi.nlm.nih.gov/PubMed*
- ☐ Virtual Body: A cross-section of the human body *www.medtropolis.net/vbody/*



Questions answered on YourHealth.com – see panel, right

CD-ROMS IN NURSING: Case study • By Mark Vernon

High scores for the sharing of knowledge

Easy-to-use CD-Roms offer valuable advice in the care of cancer patients

A little over a year ago, the Royal College of Nursing's Cancer Nursing Society in the UK took the unique step of awarding an IT project for an initiative in cancer nursing education.

The project went to David Brighton, a nurse ward manager, for the development of 'HCT chemotherapy help for windows', a CD-Rom prototype offering information for nurses in palliative care.

"The concept so impressed the practice development group of senior nurses at the Royal Marsden Hospital that the product is now being developed," says Dr Jane Mallett, research and practice development manager at the hospital which specialises in oncology.

In its present form, the prototype runs as a help-file database with users able to navigate its content via hypertext links. The opening page lists topic headings, which lead to subjects including types of chemotherapy, cell biology, cancer and drug action, plus treatment for nausea, vomiting and medical side effects.

"CD-Roms are potentially an extremely valuable means of presenting information for practical use," explains Mr Brighton. "In terms of sharing knowledge, they can be much more efficient than reference books.

Intuitive search engines and well-structured links between material is one aspect – but they really come into their own with multimedia information: video clips can be used for demonstrating procedures; images can display symptoms or adverse reactions; dynamic illustrations can explain how drugs work.

Partly for these reasons, CD-Roms are not new to medicine, with current publications ranging from electronic textbooks to medical databases, though resources for use in hospitals are more rare than those for use by doctors.

CD-Roms do, however, find a good fit with the levels of technology typically available in hospitals. "The Internet or an intranet is not an option, partly because it is only rarely available on the ward, but also because it is difficult to control information upon which lives could depend. But wards are now often equipped with PCs – and CD-Roms are easy to use. People can be taught to use CD-Roms in the same way as they use reference books," says Dr Mallett.

Various uses for the technology in the future might include patient education and abulatory nursing in the community. "It is increasingly recognised that patients can be involved in making decisions about their care – choices which can only be improved when they are better informed. And as more palliative care takes place outside of hospitals, CD-Roms might prove convenient resources for many people," comments Mr Brighton.

To fully exploit the medium, several factors must be emphasised – issues highlighted in Mr Brighton's project. The product came into being because of a series of timely coincidences: he has expertise in chemotherapy, including professional knowledge and practical issues. To this, he also brought an interest in computers and a familiarity with the ways of presenting information on screen.

In the young world of online publishing, where the effectiveness of formats is tested largely by trial and error, innovative design is key. Developing the product for publication will be a lengthy process, taking up to two years, because the project requires interdisciplinary involvement.

On the one hand, much of the value of the medium comes from its closeness to the expertise found in the hospital, which in this case could include 15 specialists. In chemotherapy, much can be gained from good access to leaders in the field.

On the other hand, the product must be justified commercially in order to be published and distributed. This can be problematic because CD-Roms are not generally viable without the support of an accompanying book, requiring a 'mix' of media, which can compromise both.

Hospitals are often enthusiastic about innovation, however. The culture is one in which people are both used to dealing with new ideas and prepared to put in the time to develop them.

Communication between specialists, another key element in healthcare, is already greatly aided by modern IT systems. It would not, for example, be beyond the bounds of possibility to see a CD-Rom complete with e-mail links. However, as Dr Mallett points out: "The Royal Marsden NHS Trust's *Manual of Clinical Nursing Provision* is accessed by up to half a million people. If you put just one manual online, the authors could be overwhelmed with queries."

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EMERGENCY SERVICES • By Geoffrey Nairn

Issues of life and death

Research is intensifying into emergency medical services which have to cope with multiple computer networks and varying workloads

The "mission-critical" epithet is much abused by the IT industry, but health emergency systems truly deserve the tag as their effectiveness can literally mean the difference between life and death.

This point was vividly demonstrated by the London Ambulance Service whose problems in getting a computerised dispatching system to work effectively in 1992 have entered the text books as a case study in how *not* to manage a complex IT project. The system – at that time – was poorly tested and beset by bugs with the tragic result that some ambulances arrived late and emergency calls from the public went unanswered.

One fateful night, the system stopped working completely and dispatchers had to revert to a manual paper-based system. Critics of the project claimed lives were lost due to the delays, but this was never proved.

Happily, however, the problems were overcome, and, in a remarkable turnaround, the London Ambulance Service went on to win the coveted Information System Management Award from the British Computer Society, last year.*

The earlier problems experienced with the London Ambulance system were perhaps extreme but they highlight the challenges in building health emergency systems that have to work with different computers and data sources and cope with varying workloads.

The critical nature of emergency services imposes exacting requirements on the technology. Dispatchers need instant access to multiple phone lines, the system must work with zero downtime and it must deliver an immediate response.

For one Australian IT supplier, Trade Wind Communications, this description sounded similar to that of financial dealing room technology, a market where it claims extensive experience. The company has thus adapted its dealing room technology to the needs of the emergency services market. TWC recently signed contracts to provide the Australian Ambulance Service and Fire Brigade with digital voice communication and paging callout systems for the New South Wales region.

The bigger IT vendors have also spotted the potential of the emergency services market. Intergraph, the US supplier of sophisticated graphics software, has created a division, Intergraph Public Safety, specifically to focus on this business. The US city of Memphis recently selected Intergraph Public Safety to provide a $2.5m computer-aided dispatch system for an area covering 327 sq miles and serving more than 600,000 people.

The dispatch system comprises various specialised subsystems to handle interactive mapping, dispatching, records management and communications. It links to a database that includes geographic and address information as well as providing incident history and traffic pattern data.

Based on Microsoft's Windows NT operating system, the Intergraph system runs on powerful PC workstations and uses symmetrical multiprocessing technology to handle the high transaction volumes. Better emergency management is one of the key points of the European Commission's health telematics research programme. The Hector project, in particular, involves more than 50 healthcare providers and IT suppliers and aims to demonstrate the advantages of using wireless networks to co-ordinate emergency healthcare.

The project has 11 pilot sites across Europe, one of which is the Lancashire Ambulance Service in northern England. Its system uses wireless network technology to transmit live pictures from the scene of an emergency to hospital doctors who can advise the paramedics on life-saving treatment and save precious time in treating patients when they arrive at the hospital. The system is also used to transmit electrocardiogram (ECG) data to the hospital.

"Doctors can get detailed information about a patient's heart before the patient is wheeled through the door," says Martin Collier, IT manager for the ambulance service.

The Lancashire trial started in 1997 using one ambulance and three cameras. Two are fixed on the outside of the vehicle to give hospital staff a bird's eye view of a serious road accident, for example, while a third movable camera is mounted inside to relay images of the patient. It has a zoom lens that produces images "so close that you can see the hairs on the back of a hand," says Mr Collier. The trial has since been expanded with a fourth miniature camera mounted on a paramedic's helmet and connected via wireless link to the ambulance.

This allows the paramedic to roam away from the vehicle and transmit images of accident victims trapped inside vehicles, for example. The images from the four cameras are relayed simultaneously over a GSM phone link using "slow-scan" transmission to reduce bandwidth requirements.

The present generation of GSM networks can only handle 9,600 bits a second, which is insufficient for real-time moving images. The slow-scan system saves bandwidth by sending a series of still images once every four seconds and only those parts of the picture that actually change are transmitted.

This mobile data terminal from Xyratex offers instant, secure access to critical data, such as medical records, for West Yorkshire Ambulance Services

Mr Collier believes the slow-scan system is ideal for this application. "Doctors prefer still pictures as they are less distracting on the eye," he says.

The high-tech ambulance and its roving camera-equipped paramedic made the headlines in the UK when the vehicle was unveiled last year, but Mr Collier admits the ambulance has not yet had a chance to put the technology to the test in a real emergency. "It is aimed at major incidents and is not really that useful for everyday call-outs," he says.

The ability to transmit remotely ECG data is more useful, he believes, as the ambulance is equipped with the same sophisticated 12-lead ECG monitoring technology as hospitals use. Hospital staff no longer have to spend 10-15 minutes taking ECGs when an ambulance patient arrives at the hospital because the data has already been transmitted.

The Lancashire Ambulance Service hopes install the wireless system in three or four ambulances and believes the project could be extended to other countries with GSM coverage. It has done tests in which cameras on a car travelling on a motorway in Lancashire transmitted images to a laptop computer in Milan, Italy.

*British Computer Society awards: see details, page 10

MEDICAL RECORDS • By Joia Shillingford

New rules soon on sensitive data

Patients in Europe will have wider grounds for compensation, if data protection regulations are breached

How safe are your medical records? Under the law, only as safe as the information companies keep on customers. But this could be about to change as a new Data Protection Bill goes through parliament.

The bill, which is necessary to introduce the European Union Data Protection Directive to the UK, is likely to be passed before Parliament rises for the summer, according to Dr John Woulds, director of operations at the Office of the Data Protection Registrar.

It introduces new rules for sensitive data, such as medical, political or religious information about individuals. These rules prevent data being processed without the person's consent, unless processing is necessary to protect vital interests of the patient. Similarly, personal details cannot be disclosed to a third party without the individual's explicit consent.

Processing must also be "necessary for medical purposes and undertaken by a health professional or a person who ... owes a duty of confidentiality which is equivalent to that which would arise if that person were a health professional."

Patients will continue to have the right to see their medical records except in cases, such as mental illness, where this information might damage their well-being. Organised manual data, such as index cards, also comes within the scope of the Act for the first time.

In addition, sensitive data can only be processed by a health professional in connection with his/her employment. When passed, the Act will also give people the right to claim compensation where a data controller has contravened certain requirements of the Act.

"It will extend the rights of individuals," says Dr Woulds. "At present, they can sometimes claim compensation for breaches of the 1984 Data Protection Act, but under the new Act the grounds for contravention will be much wider."

Dr Woulds says: "Bringing in the new rules should not cause any great difficulty for the health service because doctors have strict professional and ethical rules on patient confidentiality. The Department of Health also issues guidelines."

However, the Bill has a number of implications for healthcare computer systems. Brian Endersby, manager of healthcare systems at Bull, says a combination of the Data Protection Bill and the move towards sharing health information (between GPs, hospitals and community services) is raising concerns about security.

"A balance needs to be struck between providing access to healthcare information and restricting particular data to just those staff who need to see it. The Bill could have implications for historic patient records, which are starting to be used in expert systems to aid clinical decision-making."

There are ways of making information available from many locations – but only on a need-to-know basis. One possibility is to issue clinicians with credit-card sized smartcards, which they need to insert into a device beside PCs to gain access.

"There's quite a lot of interest from clinicians in this," says Mr Endersby. Another option is for patients to keep their own information on a smartcard. "When this was tried out in the CareCard Department of Health trial about a 10 years ago," he adds, "many patients chose to go on using their CareCards at the doctor or pharmacy.

Data was held exclusively on the patient's card and patients were less likely to lose them than their credit cards. But general practioners said they could not really measure the benefits of the card unless most patients used them.

The problem of better data access in the National Health Service needs to be solved first, says Mr Endersby. "Often data from the laboratory, the radiology department and so on is not pulled together in one place. When this happens, the focus on security will increase."

In the US, an innovative network, Careweb, uses intranet (private internet) technology to link information from six hospitals in the Boston area. Immediate access to patient files is available, whichever hospital the patient enters.

But data is protected from both internal and external breaches because authorised medical staff cannot get into the system unless they key in not only a password, but also a random number generated by a credit-card sized SecurID device from the US company Security Dynamics. This number changes every 60 seconds. Data is also encrypted as it is sent back and forwards from the server computer.

The project, spearheaded by Dr John Halamka of Beth Israel Hospital in Boston, cost less than $50,000. It discourages inappropriate access to patient records from within because while users are online, an audit trail logs all accesses to data including time, date, details accessed and the user's ID.

The integrity of the medical profession is not in doubt. But as the new Data Protection Bill looms, doctors who already send sensitive patient information via public e-mail services, should make sure that adequate security (e.g. encryption) is in place. Standard e-mail systems, especially the Internet, are not secure enough for this type of information.

PATIENT BOOKING SYSTEMS • By Joia Shillingford

Radical way to speed up referrals

A pioneer project in the UK benefits doctors and patients alike

Imagine going to the doctor, getting a referral to the hospital and being able to choose a suitable date before you have even left the surgery. This could soon be a reality for UK patients living in the West Middlesex University Hospital NHS Trust area.

West Middlesex is pioneering a radical new patient-booking system in a Ecu 1.3m project funded by the European Union. Designing the Cobra system involved a massive business process redesign (BPR) exercise to make possible a new way of booking-in patients.

Now, when patients who are participating in a trial of the system, visit their general practitioner, this is what happens: if the patient needs surgery, the doctor and patient fill in an on-screen questionnaire together. The questionnaire will typically ask questions about the patient's medical history and the surgery needed.

If the patient is approved for surgery, another form will prompt the doctor and patient for anaesthetic information. One question might be whether or not the patient is anaemic. If this second form is approved, the doctor and patient can book an appointment directly in to the hospital system, choosing from consultants and dates.

The idea is that the system avoids the need in straightforward cases for the patient to visit outpatients for a check-up first. The thinking behind this, says John Sidman, IT director at West Middlesex, is that doctors in outpatients will be freed from doing simple diagnoses and will have more time to do operations themselves.

Research shows that the more operations of a certain type a doctor performs, the better (and faster) the doctor is likely to become at doing them – increasing patient throughput.

In some cases, the system will obviate the need for patients to go to hospital at all. For example, a GP filling in an online form with a healthy, young patient needing a small mole removed, might get the response back that this operation can be performed by the GP.

For patients, the system means that even if the GP cannot fix their problem immediately, they leave the surgery with an appointment and a feeling that they have made some progress.

"The entire process redesign was done around what the patient needs," says Mr Sidman. "It also looks at what happens when the patient turns up at the hospital. It asks whether patients have any special needs. Did they arrive with someone who needs a taxi home, do they have a child with them? These points may seem small but they can be very important to the arriving patient."

Patient-friendly system: the computerised administration system also takes care of small but practical points

The system is made up of a number of components. The patient administration system (or Pas) is from Siemens Healthcare Services part of Siemens Nixdorf. Called OpenPas, it was chosen for two reasons.

"It represented an upgrade to the hospital's existing IRCPas system," says Mr Sidman, "though it was more of a replacement. We purchased the concept before the product was a reality.

OpenPas was also based on opens systems and client-server technology, and it supported the Riche framework, a set of EU standards to which health software should comply, he says. This means that it is easy to integrate with other health systems based on Riche.

For example, the surgery system (and the accident and emergency system) integrates with OpenPas via applications programming interfaces (APIs) that conform to Riche.

This integration enables GPs to book patients directly into the operating theatre and connect – via the online forms – to parts of the surgery system for pre-operative and anaesthetics exception reporting.

The surgery system – also part of Cobra – was built by Ireland-based Irish Medical Systems (IMS). West Middlesex and IMS worked closely together to develop this system in which IMS will retain intellectual property rights.

Apart from Siemens Nixdorf and IMS, the third member of the consortium that bid for the EU Cobra project was Adams Training and Advisory.

Funding for Cobra was awarded in December 1994 and two years of business process redesign and systems design followed which finished last Christmas. The final system runs under Unix on industry-standard server systems, with Oracle as the database.

However, Mr Sidman says the applications are easily portable to Microsoft's NT or could be run with another database. "We ran a series of pilots to test the concept," says Mr Sidman.

"We've tested it with six GPs and will roll it out to 250 doctors in all. The roll-out will begin in April, with quite a few GPs coming online before the end of 1998."

Doctors will be able to have a connection to West Middlesex's intranet (a private internet) or gain access via a modem to modem link. "When GPs are linked together via the NHSNet network, we will be able to connect to that," adds Mr Sidman.

"GPs are very pleased with the system," he says, "but they can't integrate it with their other NHS systems because these are not 'open'." Mr Sidman feels the NHS Information Management and Technology (IM&T) initiative should pay more attention to the 'technology' part of IM&T, rather than just leaving it to the computer industry.

Open patient administration systems

Many hospitals still have patient administration systems that do not conform to industry standards, such as the Riche framework or NT, Unix or MS-Dos operating systems. This makes it difficult for them to add new patient-data as it becomes necessary.

Open patient administration systems on the market include products from MDIS, Siemens Nixdorf, HBO and SMS UK, according to David Alexander, marketing and business development director for MDIS Public Sector.

Some hospitals also allow GPs to book appointments over an intranet (privayte network) or the Internet by sending electronic mail messages.

John Sidman, IT director at West Middlesex University Hospital NHS Trust, says many hospitals with old proprietary systems have implemented integrator or interface engines that take data from one system and map it on to another. He adds: "This is good in the short-term, but in the long-term you end up with another system – the integrator engine – to maintain."

SMARTCARDS • By Mark Vernon

Still a long way to go

France and Germany lead the way in smartcard applications

Whenever smartcards are announced as a technology ready and waiting to happen, applications for holding medical records and health service information on them are frequently mentioned in the same breath. Now a chorus of commentators is predicting that 1998 will at last be the year of the technology's 'small bang'.

The question is, will health be on the cards? The logic for using smartcards in medicine is as simple as it is profound. Healthcare provision carries high administrative costs which can be dramatically reduced with a successful electronic scheme.

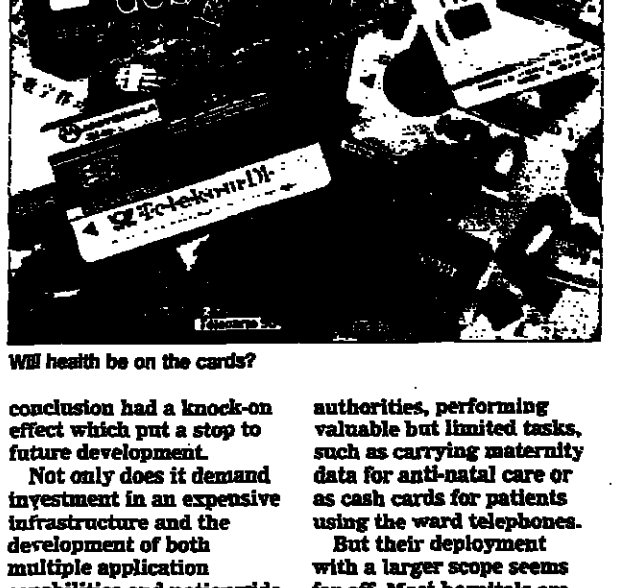
The 'science' of drawing up such a system has come to be known as Informatics. But if their justification is straightforward, the adoption of smartcards is complex. Across Europe it varies according to a number of economic and cultural factors.

Germany's 70m citizens are already in possession of cards carrying administrative information. In France, for a scheme called Systeme Electronique de Saisie de l'Assurance maladie, Vitale will roll out 25m cards this year. And by the end of 1999, holding a card will be required for participation in the country's health insurance system.

But, in the UK, this year's 'small bang' is unlikely to be louder than a whisper. "We have no current plans, though it remains part of our strategic agenda," said Ross Langford, speaking for the IT group of the NHS Executive.

Why is Britain so different? Therein lies a story: 10 years ago, the NHS carried out two trials involving smartcards. Funded centrally, and run locally in Wales and Exmouth, these explored how patient-held cards, as opposed to those kept by hospitals or doctors, might be used for introducing new efficiencies when providing care.

The feasibility study suggested, however, that these would only be cost-effective if cards were used to store more than one type of medical information, such as personal health records and prescription data. This conclusion had a knock-on effect which put a stop to future development.



Will health be on the cards?

Not only does it demand investment in an expensive infrastructure and the development of both multiple application capabilities and nationwide standards, but it also raises a number of concerns about security, notably how private data can be kept from other interested parties.

Mr Langford admits that, since then, the worries about security from bodies such as the British Medical Association have receded, though only in relation to internal NHS networks. Issues such as the confidentiality of a medical history when exposed to insurance applications such as would be necessary if smartcards were to have application in emergencies, is one that remains, as does the more basic question of what happens if someone looses a card.

The cost of the investment remains a big issue, too. This is partly a problem that arises from the decentralised economic structure of the NHS, which, although encouraging local projects, creates logistical problems for larger roll-outs.

Smartcards are being trialled in a number of innovative health authorities, performing valuable but limited tasks, such as carrying maternity data for anti-natal care or as cash cards for patients using the ward telephones.

But their deployment with a larger scope seems far off. Most hospitals are still working to convert paper records to electronic formats, with all the struggles *that* involves, legally, technologically and educationally, to say nothing of cost.

As noted above, the situation in France and Germany is remarkably different, though whether because health provision in these countries is structurally better able to take advantage of an investment in smart cards, or because it is traditionally high spending and inefficient, depends upon whom is asked.

These cases do, however, provide examples of the powerful rationale which can be offered for spending the money the smartcard infrastructure requires.

In Germany, the government estimated that the costs would total between DM450-500m when its scheme was launched in 1993 and it anticipated a payback over a five year period, a result due to be confirmed soon.

Savings come from insurance accounts, used to reimburse medical practitioners, being settled electronically and overnight. Under the paper-based system used previously, the cost of verifying prescriptions is estimated at around DM770m per year, say analysts at Datamonitor.

The French roll-out provides the beginnings of an answer to fears about security, discussed previously. In the first wave, the cards will carry only insurance information, with data useful in emergencies, such as allergies or chronic complaints, being added later.

Access to the cards is by a two-card reader, requiring the practitioner to insert a card capable of RSA encryption at the same time. Datamonitor reports that savings of around $6m a year are anticipated once the system is installed.

It is for these reasons that optimism remains high in the smartcard community, even for the sceptical UK market. Indeed, Peter Cochrane, head of applied research and technologies at BT, recently said that people will be wearing medical records as jewellery before long. Which adds a whole knew meaning to being complemented upon one's appearance – at least, by a doctor.

IN-FLIGHT TELEMEDICINE: Case study • By Geoffrey Wheelwright

Hermes research project will aid stricken air travellers

Telemedicine services may soon be offered on international flights

It's no fun getting sick while you are on holiday – and perhaps even worse if you are traveling on business. But it can be positively dangerous if you become seriously ill while you are 30,000 feet in the air on a long-haul commercial flight.

If your problem is serious enough – such as a heart attack, stroke or seizure – the pilot or cabin crew may scramble through the plane looking for a doctor. The chances are, however, that such a doctor will know little or nothing about your medical history and will not have the diagnostic tools relevant to make anything more than the most basic diagnosis.

All of that may soon change as the result of a three-year research project into telemedicine, funded by the European Commission.

Known as Hermes – a short form of the phrase 'Healthcare: Remoteness and Mobility factors in common European Scenarios' – the project began in January 1996, and is being co-ordinated by the University of Edinburgh, in association with medical, technical and business experts from Germany, Belgium, Portugal, Greece and the rest of the United Kingdom.

The goal is to put in place a system that would provide 'end-to-end' basic medical diagnostic and telemedicine services for travellers – from the moment they leave on a trip to the time they arrive home. This includes designing portable diagnostic and telemedicine conferencing units that could be used by local doctors at a holiday hotel or business conference centre to exchange detailed medical information with a patient's regular doctor in their home country.

The first step in providing that type of telemedicine support begins when a patient steps on a aircraft – and that is where much of the research group's effort is now concentrated. Supporting that effort is the construction and design of the communications infrastructure required to allow telemedicine links between ground-based medical support teams, local doctors and planes.

> Passengers may opt for insurance to cover the cost telemedicine services

Dr Andrew Lamb, a research fellow at Edinburgh University, who is working on the Hermes project, explains that very high frequency links are likely to be used for transmitting air-to-ground medical data on short-haul flights within Europe.

Meanwhile, satellite-based communications (probably using existing in-flight telephone systems) will probably be employed for long-haul flights.

One of the other key elements to this in-flight telemedicine system is a 'portable vital-signs monitoring system' (PVSM). It would look at vital signs including ECG levels, oxygen saturation, temperature and blood pressure and would be monitored continuously, with information transmitted in real time to an appropriate medical expert at a ground-based medical facility.

By combining the information produced by this PVSM with advice from ground-based medical staff, the Hermes team suggests that more timely and accurate medical decisions can be taken. These decisions might be whether or not the plane needs to make an unscheduled landing at the nearest airport to get the patient to a hospital or perhaps what on-board medications might be administered.

Dr Lamb says the group hopes to have the system ready for 'commercialisation' by the end of this year, but warns that there will be a number of external issues to address before it can be widely implemented.

Firstly, it will need US Federal Aviation Administration (FAA) approval. Then individual airlines will need to make decisions about *how* and *where* it will be implemented. "There is a financial question over it from an airline point of view," he says. "They need to decide whether it will really be beneficial in terms of costs for aircraft to have this facility. It may, however, be beneficial from a public relations point of view."

He admits that governments may also wish to become involved and, in some countries, may legislate to ensure such services be available on board in aircraft that pass through their airspace.

In terms of covering the cost of delivering this service, Dr Lamb says there are several potential financial models including one based on offering travellers some form of 'end-to-end' travel insurance.

It would ensure the cost of the service (such as satellite communications time when doing telemedicine from the aircraft, medical personnel costs, ambulance transport and so on) will be met by insurers.

The real key lies in building the appropriate support infrastructure so that emergency calls can be handled quickly, reliably, accurately and professionally, says Dr Lamb.

Hermes is considering among other options, establishing a corporate network for its own services with a single European number and automatic routing and security/access control. National 'telemedicine access points' will control all communications functions.

The group also says that a message-passing system is also being developed to allow doctors to control the services.

It further pledges that the range of Hermes activities will be met on a round-the-clock basis, in all clinical specialities and involving all users and providers in the healthcare enterprise.

BRITISH COMPUTER SOCIETY • Information Systems Management Awards

Top team to be announced next month

The winner of the 1998 Information Systems Management Award, organised by the professional body, the British Computer Society, in association with the Financial Times, will be announced at a dinner in London on May 14.

The speaker will be the deputy chairman of Marks and Spencer, Keith Oates.

Individual tickets are £65 and corporate tables are available at £650.

The event is at the Landmark Hotel, opposite London's Marylebone Station.

The awards recognise achievement, improvement and innovation in information systems management in the UK. The judges look in particular for impact on business performance, the relationship with end-users, and the management of development or operations or both.

The award typically goes to a team, rather than an individual.

Past winners are Ford, Tesco, P&O Ferries, Eagle Star Life, London Ambulance Service and Cheshire County Council.

The sponsors are Blue Circle Industries, Deloitte & Touche, KPMG Impact, Unisys, and the Woolwich bank and financial services group.

□ *Tickets can be booked through Karen O'Sullivan on 01793 417434 and at kosullivan@bcs.org.uk.*

TELEMEDICINE: Case studies • By Geoffrey Nairn

Nominated for IT 'Oscars'

Peace-keeping troops and civilians in Bosnia benefit from pioneering telemedicine projects

Thanks to telemedicine, the technology deployed by the US Army in its front-line Mobile Army Surgical Hospital (Mash) units has come a long way since the days of Hawkeye and Trapper John, the two characters in the popular TV series Mash.

The antics of the 8055th Mash unit took place during the Korean War, when front-line medical facilities were limited. Forty years on, conditions have improved considerably and using telemedicine, US troops in the front line can benefit from the same expert medical advice as civilian patients in hospitals. A pioneering telemedicine system for radiology applications was deployed during the US peace-keeping mission to Bosnia-Herzegovina in 1996.

The project, called Deprad, aimed to provide advanced radiology support to US troops in the region and so minimise unnecessary evacuations and troop movements and accelerate their return to duty. There were no radiologists deployed in Bosnia-Herzegovina but using Deprad the primary diagnosis of radiology exams was performed by radiologists stationed in Hungary and Germany.

Deprad is by no means the first example of 'teleradiology' but it is significant because, unlike most telemedicine projects, it used commercial off-the-shelf hardware and software and the time from conception to full operation was just three months.

The project has been chosen as one of the six finalists in the health category of the Global Information Infrastructure (GII) awards, a US initiative to promote innovative uses of the Internet and networking technologies. The winners of the GII awards, described as the 'IT Oscars', will be announced later this month.

The 212th Mash unit involved in the Deprad project was located on a mountain 25km south of Tuzla in Bosnia. A local area network (Lan) was installed at the Mash to link the computerised radiography, tomography and ultrasound systems with film digitisers and workstations.

The equipment communicated locally using the Dicom messaging standard. This is a new standard for transferring images in multivendor environments using IP-based networks – the protocol that underpins the public Internet.

The Lan was connected by microwave link to a receiving station 10km away and the images were then sent over military satellite network to a ground station in Landstuhl, Germany. The data could then be transmitted to the regional medical centre in Landstuhl or forwarded over leased lines to the combat support hospital in Hungary, where the primary diagnosis and archiving took place.

More than 15,000 X-ray images were handled this way in 1996 and each image took less than five minutes to travel from the Mash to the Hungarian hospital. A radiologist would read the exam and return a diagnosis either by phone, fax or using the computerised information system within minutes of receiving the image.

Prior to the installation of the Deprad network, it could take days to get a diagnosis because films had to be flown or driven out of the country to a radiologist or the patient was evacuated before a radiologist could see the films.

The Deprad system does away with conventional X-ray films: the images are handled as computer files – though they can be printed out if "hard copy" is needed. Teleradiology thus eliminates the need to process films using water and chemicals, which may not always be available in a Mash unit.

The off-the-shelf teleradiology system was the result of collaboration between the US Army radiologists and the Georgetown University Medical Centre in Georgetown, South Carolina.

One of the most interesting aspects is that maintenance and support to the project was done over the Internet. The Lans in the Bosnia Mash and the Hungarian support hospital were connected to the Internet via their links to the network at the Landstuhl medical centre. This allowed engineers in Georgetown or equipment vendors to access the sites in Bosnia and Hungary and so support and maintain the equipment remotely.

The Deprad project was judged a success by its participants, both in meeting its aims in improving health care in the Mash units and demonstrating that telemedicine can be done using standard technology.

Civilians in Bosnia could also soon benefit from better healthcare thanks to a similar telemedicine project set up by the Italian armed forces, the San Raffaele Hospital in Milan and the European Space Agency.

During the conflict, Bosnian children from Zenica are carried to Sarajevo airport terminal for transfer to Germany by Norwegian Army medics. Today, military telemedicine systems in the region are also benefiting civilians AP

The project, called Shared, started in 1996 with an initial aim similar to Deprad, namely to provide telemedicine services to Italian peacekeeping forces at a field hospital in Sarajevo. But the project also aims to bring telemedicine to Bosnia's civilian population via the Clinical Centre of the University of Sarajevo, where Italian military doctors already attend civilians.

The end of the war in Bosnia left the medical facilities of the Clinical Centre in a pitiful state. To make matters worse, hospital personnel of Serbian nationality had fled Sarajevo leaving the hospital desperately short of qualified medical staff.

The Shared project aims to cover these deficiencies using videoconferencing technology to allow the hospital's young inexperienced staff to obtain remote consultations, remote diagnosis and continuing medical education from the San Raffaele and other hospitals.

The project will focus on using telemedicine in radiology, pathology and ophthalmology – the Milan hospital has already exchanged opthalmologists with the Sarajevo centre. The system uses a mix of satellite links and ISDN terrestrial links to connect the hospitals together.

The ESA supplied the satellite base stations to connect the centres using the Eutelsat satellite, while the US company Videoserver supplied the gateway technology to allow video conferences over ISDN links.

The next stage of the Shared project is to take its telemedicine technology on the road – and, this month, the team hope to demonstrate a "tele-ambulance". This is a vehicle equipped with a satellite terminal and biomedical equipment that can be taken to outlying areas and connected into the Shared network of hospitals, using satellite links or ISDN terminals.

CASE STUDY • By Geoffrey Wheelwright

Close analysis of hospital's services

Managers gain valuable insights with online analytical processing

It is relatively easy to measure the effectiveness of a manufacturing operation – or count the amount of money brought in by a service-based business. But how do you calculate the efficiency of a hospital? What statistics are meaningful in doing so – and how can they be applied to improving the operation of the hospital?

Those were just some of the questions facing what is now the Pinderfields and Pontefract Hospitals NHS Trust in the UK as it started several years ago to estimate how to parcel out its budgets and resources in the face of strained healthcare budgets. According to John Wood, director of performance and information at the hospital, it was no easy task.

He says the hospital, which now has more than 4,000 employees and an annual budget in excess of £110m, started this effort several years ago. It worked with its software supplier, Comshare, to provide hospital executives with top-level information and statistics that aimed to provide a good overview of the operations of the hospital through an executive information system.

"As the process evolved, it became clear to us in early 1997 that this was only meeting a small percentage of the organisation's needs – it allowed executives top-level information, but general managers were demanding more and more information," Mr Wood explains.

"The process we had in place was that managers would have to go to management information department and get them to run a number of reports from operational systems, then analyse and try to make sense of it. It would take two to four weeks to have that analysis done. And we often found that when the department had completed the analysis, managers had asked the wrong question."

Olap system

The solution finally came when Comshare introduced the hospital to a technology known as online analytical processing, Olap – *see cover story, page one*. Simply put, it allowed managers to make their own requests for much more detailed management information that could be extracted – in real time – from the vast repository of data within the hospital to produce something that was more accurate, timely and useful than before.

"We mainly want to look at patient statistics – such as how many out-patients has a particular consultant seen, how many were seen in clinic or how many operations were done in a theatre session," he says.

"The general manager can start at the top level, then drill down and can look at his own clinical service unit. If perhaps he looks at surgical area, within that there would be general surgery, urology and ENT (ears nose and throat). If he picks general surgery, then he could have a look at the four surgeons doing that work."

This kind of analysis yields all kinds of useful data that helps the hospital in wide variety of resource planning – deciding areas that perhaps need more help, better diagnostics tools – and perhaps areas where more preventive medical work could be done.

Success

The impact on emergency cases is significant. Comshare's technology calculates the point at which extra beds or wards are released. "The success of this proactive approach has enabled funds to be released without hesitation, as the information virtually makes the decision for the Trust's managers."

Operationally, the application has vastly improved the efficient use of resources. Processing of outpatient data has been reduced from three weeks to *four hours*, enabling the information staff to look at quality and systems development rather than processing numbers.

It also helps that everyone in the hospital is working with the same view of the same information system, to implement the same, single strategy. The system also encourages interaction between functions, offering a better understanding of different tasks and pressures they each face, he says.

"It offers a rich database of information that managers can access in real time and address a question that might be in their minds," he adds.

"What it is trying to do is cut out the 'middle man' in terms of information. Instead of general managers trying to go through management information reports, they can manipulate it directly as many times as they wish. It brings it in at their fingertips so if they need to make a business case for another consultant or to develop service in a certain way if they have trend lines showing a rise in certain kinds of cases."

"We have found that because most NHS establishments are stretched there are a number of issues they can never quite address adequately such as data quality," he concludes.

"While we have had lots of data before now, the question was whether or not the data was accurate – but the management information staff's time that has been released by using the Olap system is now being focused to address the data quality and accreditation process and data protection issues."

INTERNET AND THE LAW • By Nuala Moran

Tensions rise between governments and the world of business

In the fight against international crime, politicians insist they have the right to control the use of encryption, but companies argue that they must protect valuable business information

The Internet has developed a reputation as a law-free zone, beyond the writ of national jurisdictions and the influence of law enforcement agencies.

As a result, there is much clamour from governments, law enforcers and business for a unified legal framework.

While governments and law enforcers are concerned about crime and taxation, business wants global agreements covering issues such as data protection, intellectual property protection, and legal liability, to allow it to trade with confidence. Inevitably, business favours the lighter touch of self-regulation, rather than having to operate under a heavy-handed criminal law regime.

One of the key stumbling blocks in framing Internet laws is the conflict between the needs of governments and the needs of business. This is exemplified by arguments over the use of encryption, with companies saying they should be allowed to protect information – one of their most valuable assets – by encrypting it, and governments arguing that in the fight against crime, they must have the right to control the use of encryption, and to monitor and decrypt Internet traffic.

The Internet is undoubtedly becoming an important medium for electronic commerce, reinforcing the need for global regulation. But as Robin Lawrence, head of the Digital Crime Unit at the Federation Against Software Theft (Fast) confirms, Internet-based crime is also growing.

"The month-on-month trend is upwards. In December 1997, 20 per cent of the 80 to 100 complaints we receive each month related to the Internet, in January 1998, the figure was 28 per cent," he says.

The Internet is a primary conduit for software theft – it is used to distribute unlicensed software, and is now increasingly used for passing round counterfeit software, and other intellectual property, including music, he adds.

The reach of the Internet is giving criminals the ability to form international conspiracies, making it harder to detect and catch them. "Such groups often source the material in one place, prepare art work and packaging in another, and distribute it in a third location," says Mr Lawrence.

Not only can criminals hop around from one jurisdiction to another, the digital nature of software makes it difficult to collect the evidence on which to base a charge. Usually there is no hard copy of any evidence, and no way of telling if electronic evidence has been changed.

Revisions are expected to the UK Police and Criminal Evidence Act to cover computer-based evidence, adds Mr Lawrence.

One of the main allies of Fast and other law enforcement agencies, in combating Internet crime are the Internet Service Providers (ISPs).

There is uncertainty about the extent of an ISP's legal liability if criminal activity takes place on its network. "However, once a service provider is notified that there is a problem with a Web site it hosts, its responsibility becomes greater," says Mr Lawrence.

It is the issue of pornography on the Internet that has brought the question of legal liability of ISPs most sharply into focus. UK service providers, anxious to avoid the heavy hand of legislation, have set up the Internet Watch Foundation, to handle complaints and notify ISPs of obscene material on their networks. In its first year IWF referred on 781 complaints, the majority involving US-based ISPs.

Janet Henderson, Strategy Rights Manager at BT, one of the founders of IWF, believes that the way in which the industry banded together to form the foundation provides a model for self-regulation. The concept of a central clearing house for the reporting of illegal material could be extended to other types of material – for example, copyright.

"The issue of pornography is very emotive, and with the issue of criminal liability hovering, the industry is united to deal with this," says Ms Henderson. "The industry has shown that self regulation can work."

Internet technology is moving so quickly it is pointless to try and legislate, she argues. "It is a classic situation of drafting legislation which is out-of-date by the time the ink dries. For the time being, self-regulation is more robust. It will buy time to assess the technology and see if self-regulation works."

BT is keen to apply the clearing house approach to copyright. Ms Henderson says the World Intellectual Property Organisation (Wipo) Treaty agreed last year, and enshrined in the European Copyright Directive, leaves the question of *who* is responsible for loss due to infringement of copyright open to interpretation.

"I'm afraid the conclusion will be, if in doubt, sue the service provider," she adds.

Ms Henderson is a council member of IPSA, the Internet Service Providers' Association, which represents 80 ISPs.

"We want the environment to be safe so that people want to use it. It is in the interests of consumers, content providers and service providers to have show stopping issues such as legal liability clarified."

There have been a number of similar moves by other commercial interest groups to clarify the legal status of information and transactions on the Internet.

Last November, the International Chamber of Commerce (ICC), in Paris, published guidelines for a legal framework to prove that electronic messages are sent by the organisation claiming to send them, and thus are legally valid.

The guidelines cover the use of digital certificates and certification authorities, both areas where a number of governments are currently contemplating legislation.

The ICC, which represents 63 national chambers of commerce, said it wanted to set up a system of self regulation on behalf of business world wide to pre-empt the establishment of regulatory barriers by national governments.

The guidelines are based on existing law and practice in different legal systems. However, the ICC acknowledged that there may be difficulty in applying them in some jurisdictions, where it is not clear whether or not electronic transmission satisfy writing and signature requirements.

One of the most influential bodies pushing for self-regulation is the Transatlantic Business Dialogue, (TABD). This club of more than 100 chief executives from leading European and US companies was set up in 1995, with backing from the EU and the US government, to promote the liberalisation of trade between the two blocs. TABD argues that the development of electronic commerce requires a review of traditional practices and legislation.

Bill Poulos of EDS who is US chairman of the electronic Policy Committee of TABD, says the existing framework covering international trade is inadequate in the face of the Internet.

"The global nature of the medium highlights the differences between national systems. There is a patchwork of laws, and in some cases these are contradictory."

The club is studying national laws to develop a sense of what the norm is – "we will then ask governments to harmonise policies, or engage in negotiation for mutual recognition where there are differences," he says.

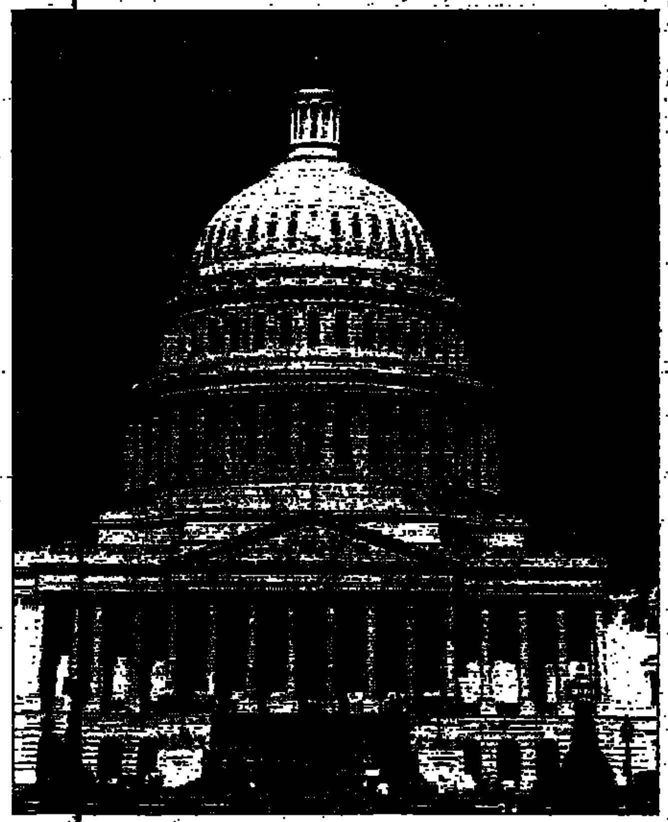
"It is critical that any regulatory approach be minimal, globally harmonised, technology-neutral and promote global inter operability."

The TABD club supports President Clinton's proposed Global Framework on Electronic Commerce, in all respects other than encryption.

The club wants regulation to be on the basis that information is property. On this basis, users should have the right to chose the appropriate strength and type of encryption, depending on the value of the information, says Mr Poulos.

TABD recognises that law enforcement agencies have valid requirements to access information from time to time, but says that they should have to obtain a warrant, in the same way as a warrant is required to search a physical property.

"This is the most difficult issue in terms of agreeing a regulatory framework for trade on the Internet. It goes to the heart of one of the most fundamental issues in a democracy – the right of an individual to protect their property."



On Capitol Hill, many politicians see the export of high-level encryption software as opening a channel for organised international crime

FT IT

IT and the Law

In the first of a new series, FT writers look at the impact of legal issues on new electronic media

CALL FOR CONTROLS • By George Black

The Internet must regulate itself

It has so far proved impossible to impose limitations in cyberspace

A global consensus is emerging that pornography and other undesirables on the Internet should be controlled mainly by self-regulation rather than by law.

The issue is extremely hard to resolve because although the Net is a global medium – and different cultures take very different attitudes to what material is permissible, how it should be controlled, who is responsible and what penalties are appropriate for abuse.

Unregulated, the Internet could become a medium not only for hard-core pornography but also recipes for bomb-makers, incitements to racial hatred, credit-card copying instructions and the nefarious activities of hacking, piracy and libel.

That the Internet looks likely to avoid strict legislation is partly because the libertarians have won the argument in the US (from where the Internet is run) and partly because it has so far proved impossible to impose effective global controls.

A landmark in the history of the Internet came in June last year when the US Supreme Court threw out the proposed Communications Decency Act. That act was introduced by Congress to impose a criminal liability on service providers and network users who transmitted obscene material.

It aroused much hostility in the US. Objectors said it was so broad that it could even incriminate phone companies for allowing lovers to talk intimately across their networks.

In an appeal case brought by the American Civil Liberties Union and others against the Attorney-General Janet Reno, the court ruled that the act was unconstitutional because it abridged the freedom of speech protected by the first amendment of the constitution.

After that, it was back to the drawing board. President Clinton quickly threw his authority behind a self-regulatory approach, urging the computer industry to make the Net "family-friendly". Parents and teachers should be given the tools to prevent children from getting access to undesirable material, he said.

In December, a conference in Washington brought together the US government, the industry, parents and teachers to discuss controls, particularly how enforceable codes of conduct could be formulated to make the Internet "family friendly". Vice-President Al Gore pressed the industry to come up with solutions within six months.

The EU and other European countries are heading in the same direction. Last July, 29 European ministers meeting at a conference in Bonn came out in favour of an Internet as lightly governed as possible, with the emphasis on self-regulation and private initiative. They also stressed the need for the computer industry to produce content rating systems.

However, they diverged from the US policy on encryption. The US still prevents the general export of strong encryption software products without first depositing the key with the authorities because it sees encryption as opening a channel for organised crime.

US Vice President Al Gore: urging the IT industry to find solutions quickly

European ministers, however, backed the adoption of encryption following the line of the Organisation for Economic Co-operation and Development. Germany's economics minister Gunter Rexrodt said he favoured encryption as essential to preserving data integrity and personal privacy.

In October, the European Commission took the view that since encryption was already becoming widespread the EU should work towards adopting it by the year 2000 as the only way of effectively protecting confidentiality.

The Commission is following the same line as the US in backing an action plan to make the Internet 'safe', which hinges on a campaign of self-regulation. The campaign comprises an effort at spreading awareness of the problem, speeding up development of filtering systems and establishing hotlines for users' complaints and a content rating system.

The Commission argues that although service providers cannot be held responsible for all content on their networks, they have a duty to respond to complaints about content by investigating and taking appropriate steps to remove illegal material and to help block offensive material.

However, there is still a lot of detail to be worked out. A content rating system could be established whereby any material which is not labelled is treated as undesirable and blocked; alternatively, all material could be allowed unless it is labelled for restricted access.

As yet, the industry has not formulated a policy on this. The Commission stresses that whatever is decided rating systems must be compatible with each other so that a global standard emerges.

In the meantime service providers have been trying to promote self-regulation, providing software with which users can impose censorship on themselves on their families.

Jonathan Bulkeley, UK managing director of service provider America Online (AOL), says the biggest part of the problem is protecting children.

"The responsibility must lie with parents to supervise their children's use of the Internet, as they should supervise their use of television," he says. But there are things service providers can do to help, he adds.

AOL is introducing into the UK a 'Kids' Only' account which guarantees that all the sites accessible are decent and suitable for children.

The account has already proved popular in the US, says Mr Bulkeley. It may be harder for service providers which do not have proprietary networks but only give access to the Internet to offer such facilities.

Mr Bulkeley says that AOL's policy is to protect the customer's right to privacy unless there is strong evidence that a crime has been or could be committed. He says there is a growing number of complaints being made on which the service provider has to make a difficult judgement.

For example, if someone complains of harassment by e-mail, it is very hard for a service provider to distinguish between a message which is a legitimate though offensive complaint and one which a court might rule was harassment.

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INTELLECTUAL PROPERTY RIGHTS • By George Black

Struggle to frame copyright law

Internet service providers argue that it is absurd to hold them responsible for a mass of material that they cannot control

The rapid advance of the Internet and electronic trading has created a whole new set of problems concerning intellectual property rights.

Foremost among these is the question of how copyright law can best be adapted to cope with the world of new media.

"The Internet has always had a culture of free use and it is hard to change that and make people respect copyright," says Liam McNeive, proprietor of a law firm which specialises in information technology.

The World Intellectual Property Organisation (Wipo), a United Nations agency, reached agreement in December 1996 that copyright should extend to electronic networks. This will help to push forward the creation of international copyright standards for digital media and should extend the rights of content providers.

Since then, governments have moved to implement the Wipo decision. The US government's attempt to do so has run into opposition, from the information technology industry and from users mainly in the academic world.

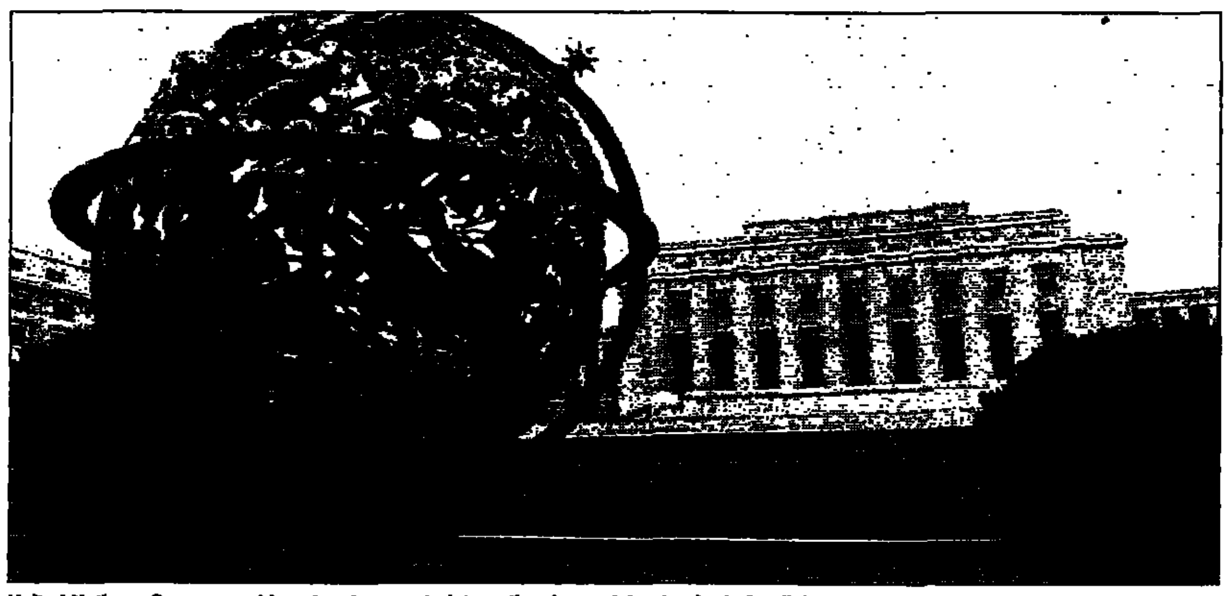
The US government's main concern is to defend the interests of its huge IT and entertainment industries against piracy.

As originally drafted, the bill would make it an offence to circumvent firewalls and other protective layers of software or to make or import devices that can do this. The bill's supporters hope it will strike a fair balance between the interests of suppliers and users, in line with the objectives of Wipo, but – among others – the US-based lobby group, Digital Future Coalition, has said the proposed law is biased towards suppliers.

The objectors say that by such a far-reaching prohibition the act would stifle innovation, outlawing all re-engineering processes, as well as inhibiting academic and commercial research.

The scope of 'fair use' would be too restrictive and users would find that many of their normal work activities now constituted infringement of copyright.

For example, such a law could make the simple browsing of a document on an electronic network an infringement of copyright. There is no test case to establish the exact legal position on this issue yet, but Alistair Kelman, a barrister specialising in the subject, says the law as it exists in the UK appears to be too broad, rather than too narrow. "The law protects things it shouldn't," he says.



United Nations, Geneva: pushing ahead to create international copyright standards for digital media

As companies around the world seek to extend the scope of their intellectual property rights under the provisions of the Wipo agreement, this could become a significant threat to information users.

It is also uncertain how the US law would define the responsibilities of service providers for content. The Internet has never had publishers in the traditional sense of companies who take responsibility for the content of their publications.

But some powerful content providers think that Internet service providers should have to take such responsibilities. The music industry feels especially strongly on this issue: it stands to sustain heavy losses of royalties by piracy of its products through uploading and downloading of virtually perfect quality copies.

In the US, music companies have a number of times notified Internet and other online services providers that their copyright is being infringed by certain sites on their networks and have threatened them with legal action unless they removed that material. In most cases, the service providers have complied, even though ISPs have generally argued that it is absurd to hold them responsible for a mass of material that they cannot control.

In December, an alternative bill was introduced in the US Senate by Senator John Ashcroft. Among its stated purposes are to clarify the extent of liability of service providers for the content transmitted on their networks, to enable copyright owners to take quick action against infringers and to allow the spread of digital media in education. The user-community has reacted more favourably to this bill better than the administration's, but its prospects remain uncertain.

The UK law on copyright has twice been amended to cope with computerised information – and most other European countries have also come in line with the requirements of the European Commission directive on the subject.

However, as Mr Kelman notes, the Internet poses many legal problems which have not yet been fully resolved by the updated laws.

For example, trademarks cause disputes between companies because the Internet as a unitary global market offers only a single system of registration on a first-come-first-served basis, not by the categories of trade and country which apply to trademarks in traditional media. The debate on how to govern Internet naming looks set to run on for a long time.

Disputes are also likely to arise in the area of databases, a field in which there is still no international agreement on copyright. Last year, Wipo decided to shelve a plan to develop an agreement on protecting databases because national governments had not formed their own policies on the issue. Experts agree that content providers should go to court only as a last resort and should do all they can to protect their property and ensure they get paid by users.

Several electronics manufacturers plan to install encryption systems which require a password to access copyright material. The development of digital watermarks, which can be irremovably embedded in software, should also help to deter piracy. At the same time, new services for handling micropayments on the Internet are emerging, which should create a system for collecting royalties.

DOMAIN NAMES • By Geoffrey Wheelwright

Trademark issues dominate discussion

Company names must be consistent worldwide to ensure access by all website users

What's in a name? Well, if you happen to be someone setting up a commercial World Wide Web site on the Internet, a name can mean a lot. And almost unlike any other business operating in any other environment in the world, commercial Web site owners depend heavily on the value of their name to bring business to their site. Even the most inexperienced Web browsers know that they have a good chance of finding a company's site if they open their Web browser software and type in a company's name, with a '*www.*' in front of it and '*.com*' after it.

And that name must be consistent worldwide because anyone in the world can access the Web. There is no point in the company being known under one name in the UK and a different one in the US. Users will take whatever name they know best for a given product, company or service and then use that to try and find its Web site.

Take, for example, the trouble facing the operator of the official US government site for the White House. Many users would assume that to visit the 'cyberhome' of the president, they would type the address *http: // www.whitehouse.com/* into their Web browser – but this is incorrect.

In fact, the US government-backed site for its chief executive is at *http: //www.whitehouse.gov*. Even worse, purveyors of pornographic pictures and videos are actually using the more obvious Web address – *http: //www.whitehouse.com/*.

After considerable protest from the *real* White House, the operators of this site have put up a few warnings on their opening page. These inform any school children who might mistakenly visit this site that they need to be "at least 18 years of age or the legal age to view pornography". The site does not, however, offer any way to prevent underage Web surfers from viewing the content of the site or from viewing nude pictures of its 'White House intern of the month'.

While this site may be simply someone trying to cash in on the political problems of a US president, it does underscore the significant problem faced by anyone who wants to protect their name or copyright on the Internet. This currently appears to be impossible – even for the chief executive of the world's most powerful nation.

In fact, trademark issues have heavily dominated discussions about how the next generation of 'top level' domain names will be assigned and made available to the world by the Internet's governing bodies. The top level of a Web site is the point at which you generally enter it. The top level of the FT's Web site, for example, is *http: // www.ft.com* – and all the content of the site 'flows down' from the top level address.

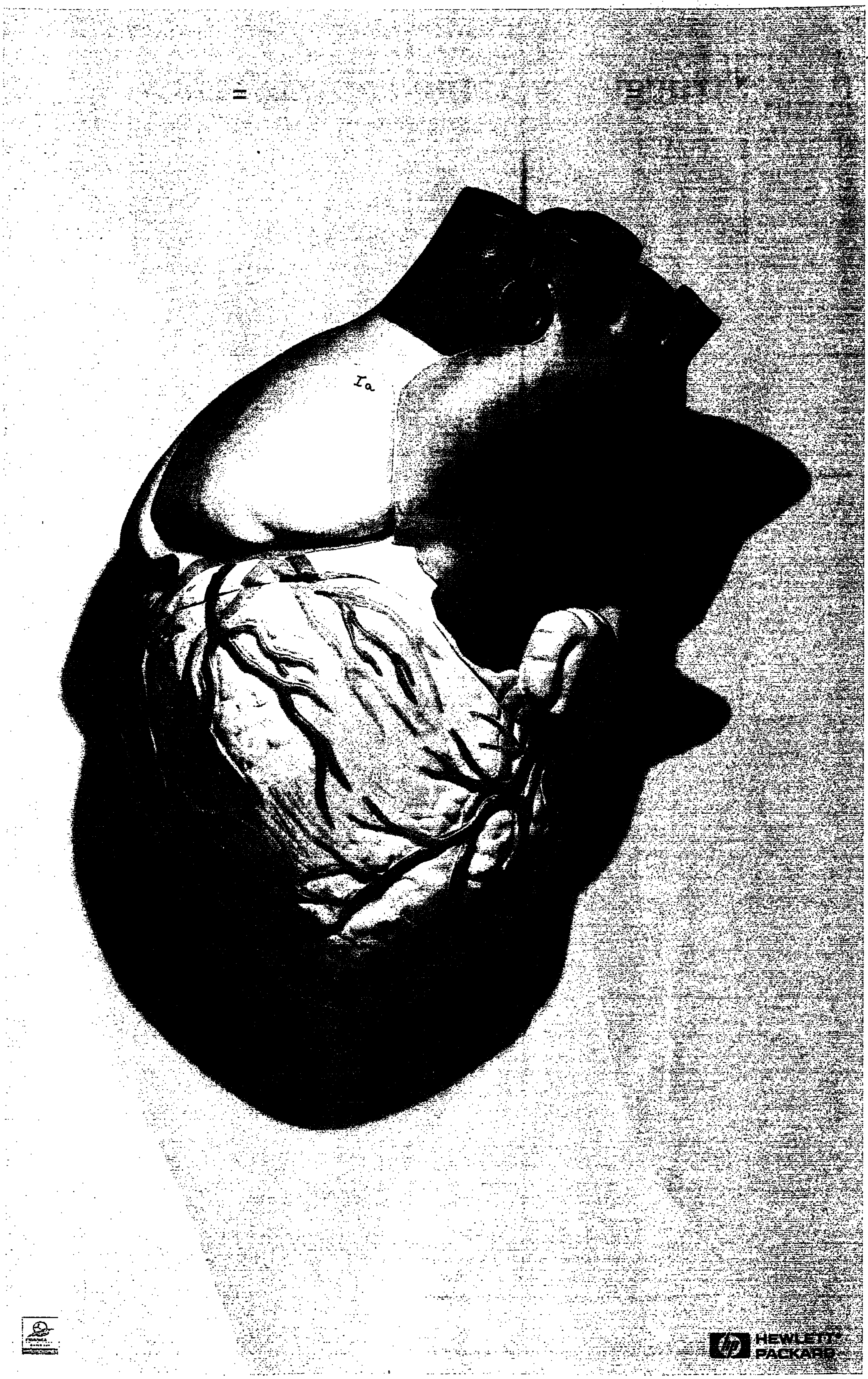
There are at present an extremely limited number of top level domain name 'extensions' (*i.e.* the 'ending' of the Web site name). These include *.com* (used to denote a commercial site), *.edu*, *.org*, *.gov*, and *.net*. There are also a separate set of more than 200 national (or country code) extensions such as .uk (for sites originating in the United Kingdom), *.to* (for the tiny island nation of Tonga), *.ca* (for Canadian sites), and so on.

To broaden the number of extensions available – and made them more meaningful – this limited list could soon be significantly longer. Under the terms of the International Telecommunications Union-supported 'generic top level domain memorandum of understanding' (or the gTLD-MoU), a new set of domain names is now under consideration. This initial set of proposed new domains are as follows:

.firm – for businesses, or firms; *.store* – for businesses offering goods to purchase; *.web* – for sites emphasising activities related to the World Wide Web; *.arts* – emphasising cultural and entertainment activities; *.rec* – emphasising recreation/ entertainment activities; *.info* – for information services; *.nom* – for those wishing individual or personal nomenclature, *i.e.*, a personal *nom de plume*.

In addition, there are also international negotiations under way to determine how new domain names are assigned to companies and individuals – and who controls the issuance of those names. Early this year, however, it seemed as though this process had become somewhat mired in

Turn to page 15



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E-COMMERCE AND REGULATION • By Mark Vernon

Data protection remains an inflammatory issue

Conflicting international views emerge in the creation of a legal framework for electronic trading

Patrick Vittet-Philippe is an expert adviser to the European Commission – in particular, to what is grandly called 'the Directorate General XIII, Telecommunications, Information Market and Exploitation of Research'.

If *anyone* knows what is on the minds of negotiators creating the legal framework for electronic commerce between the world's three main trading blocks, he does.

"It is a crucial time, with issues pressing in on every side," the French expert told this year's Online Delivery conference, presenting a paper entitled, *Towards a common framework for global electronic commerce: a comparative analysis of EU, US and Japanese policies.*

Encouraging auditors to examine the rich resources published by the Commission for itself, he highlighted three characteristics of the work being done on the wide range of problems associated with electronic payments, regulation, taxation, and new channels.

Firstly, he was glad to report lots of convergence, not only in terms of what was being settled, but also in terms of agreement about what was left best to the markets.

Indeed, within Europe, too, which has demonstrated a tendency towards fragmentation when deciding on the regulation of rapidly evolving issues, countries were broadly marching together in time.

However, certain differences have appeared, such as self-regulation, the favoured option for monitoring Internet content. "This is a very national pre-occupation which can have perverse effects. Need I tell you that what is tasteful and decent in France might not necessarily work in Britain," he said.

"Finally," he asked, "what next?" – and highlighted a summer conference, details to be announced, aimed at consolidating the global agenda for the information society.

Two important papers recently published on both sides of the Atlantic, *A European Initiative in Electronic Commerce*, from Brussels,

Patrick Vittet-Philippe: 'Self-regulations has different meanings across Europe'

and, *A Framework for Global Electronic Commerce*, from the White House, do, in fact, show so much commonality of views that the French industry ministry, for one, fears that the Commission has adopted, "an American approach to electronic commerce", and worse, crafted the Bonn Ministerial Declaration, signed in July last year by 29 European countries, "in such a way that it can be signed by the US."

A comparison of the two documents does show roughly 80 per cent agreement in terms of issues addressed and proposed solutions. Both agree on the unique character of the Internet, that "the private sector must continue to lead", that "government should support and enforce a predictable, minimalist, consistent and simple legal environment for electronic commerce", that regulation will find it hard to keep up with the speed of change, and that co-operation is needed at the international level.

However, differences also emerge, reported Mr Vittet-Philippe. For example, if self-regulation takes on different meanings across Europe, then it certainly does across the Atlantic, largely because of the European principle that self-regulation should be backed up by, and in conformity with, the legal framework.

Further, the concept of a minimalist legal framework is also substantially different, with the US understanding based upon litigation and contractual law, rather than 'top down' regulation.

What is regarded as necessary regulation also differs across Europe, as was illustrated by heated debates during the drafting of the Bonn Ministerial Declaration.

Mr Vittet-Philippe then went on to outline the areas of divergence which he believes to be not irreconcilable. The most important is the US administration's call for a 'duty free Internet'.

President Clinton's desire to turn the Internet into a free-trade zone, "may be potentially the most controversial initiative announced so far in the field of electronic commerce," he observed.

Developments on this subject are likely to move fast over the next few months. There is also a debate, driven in part by ideology, about the wisdom of imposing standards in electronic commerce, with the US believing very strongly that the market should decide, as opposed to at least some European countries being wary of *de facto* standards.

Another set of areas needing discussion are those which arise because of the specific concerns from one of the other sides: what is termed 'Illegal and harmful content' achieves central attention in the US, while it is not even on the European electronic commerce agenda.

President Clinton wants to see the Internet develop as a free-trade zone

Conversely, the subject of Internet domain names receives only general levels of reflection in the US, whereas in Europe this has become an increasingly important issue for business.

Mr Vittet-Philippe argued that these matters should be discussed and "the core agenda of true electronic commerce issues fine-tuned."

Other issues present divergences which are serious, constituting potential flashpoints. "These should be addressed as a matter of urgency," said Mr Vittet-Philippe.

The first of these concerns encryption and the export from the US of 128-bit software products.

Further, the American paper has provoked strong criticism from within the US industry when it warns that, "the US government will work internationally to promote development of a market driven key management infrastructure with key recovery."

Meanwhile, international criticism of US export controls continues.

The second inflammatory area is that of data protection. In the US, the culture favours a market solution, even though recent debate has countenanced a more direct role for the US administration to safeguard consumer privacy – "self-regulation with teeth".

In Europe, a legal approach remains dominant, and, because of that, Europe also remains isolated from the rest of the world in its approach to self-regulation.

TELEWORKING/TELECOMMUTING • By Lindsay Nicolle

The US leads the way

Information technology has blurred the old home/office work boundaries. So why are Europeans slow to become teleworkers? Is it just a myth, too good to be true?

FT IT

Focus on flexible working

Here, and on page 17, FT writers examine trends in teleworking, telecommuting and hot-desking

Europe is still way behind the US in adopting teleworking – or telecommuting, as it is often known.

Where the US has been encouraged to set up more flexible working methods by its architectural and industrial youth, sheer size, and its freethinking entrepreneurial spirit, many Europeans are typically huddled together in prewar buildings not designed for the modern working world, paying higher telecommunications costs, and hidebound by corporate management cultures which historically 'feed' on office-based workers.

The buildings and telecom costs are issues that Europeans *can* do something about – and they *are* making progress – with properties being built with distributed IT in mind and competition being encouraged to cut communications costs. But it is going to take longer to overcome the greatest inhibitor to teleworking in Europe today: corporate culture.

"Cultural change takes longer than changes in technology," says Frank Shepherd, who is employed in workstyle consultancy for British Telecom. "It's a historical thing. The mindset of senior managers needs to change."

The UK has a corporate culture that still values 'face time' at the desk. Out-of-sight means 'out-of-control' to many managers who simply do not trust their staff to work unsupervised. Worse, middle managers fear losing their power base – or even their jobs – if staff are allowed effectively to manage themselves.

Clearly, teleworking needs to be driven from the top of the company with every director championing the concept. In Europe, it is still seen as an option for managers to pursue if they choose, all too often creating a situation where the teleworking project collapses when the champion leaves.

In the US, apart from a more liberated management attitude towards teleworking in the first place, a significant difference to the European experience is that American workers are far more vocal about wanting to take on telework.

A growing number of North Americans are taking control of their lives through flexible working. They claim it has helped their careers and enhanced their home relationships, while causing minimal isolation.

'Baby boomers' are leading teleworking in the US, according to a study by AT&T. One-in-six is aged between 33 and 51 and the favoured occupations include salespeople, executives and managers, business professionals, technician/computer programmers, and teachers. They sit in log cabins, New York lofts and Californian condos, working away on PCs with Internet/intranet and e-mail capabilities, fax and phone, for employers based across state lines.

Meanwhile, in the UK, when the lobbying organisation, the Telework Platform, launched a manifesto for flexible working recently, 15 members of Parliament turned up, including a government minister and a select committee chairman – and another 65 MPs expressed their interest.

Could government ministers become teleworkers in the future? Someone with a high profile needs to lead the way soon since the notion of teleworking is already being regarded as a mythical proposition touted by idealists whose mantra over the past decade is beginning to wear thin.

Teleworking is trotted out as a solution every time the UK worries about the performance of the economy in a shrinking world of global competition, or the skills shortages, or the medical expense of treating office stress-related illnesses, or the irreparable harm commuting does to the ozone layer.

It is true that the benefits of teleworking via telecommuting, a virtual office, a telework centre, or so-called 'hot-desking', are many: a more flexible workforce drawn from a wider pool of people, not just able-bodied white males, based virtually anywhere in the country; happier, more personally fulfilled staff who, in turn, are more productive; flatten management structures

Turn to page 17

Flexible working: by the year 2000, more than 30m people in the US will be telecommuting. The number of Europeans working from home will number around 20m

DOMAIN NAMES

European concern over US approach

From page 13:

controversy following the publication of a US government 'green paper' on the issue. Some other governments – including officials in the European Community – have suggested that the US plan would leave too much power in American hands. This is despite the fact that the green paper devotes much of its content to the issue of how the US government, which virtually created the Internet to serve its defence needs, would bow out of managing it.

The central debate is over who will administer the registration of new domain names. A plan, backed by the ITU and originating in Geneva, would have created a Council of Registrars ('Core') that would have started registering new domain names this month. In fact, dozens of companies had already signed on to the Core plan and were ready to begin registration work until the US green paper appeared.

The heart of the issue starts with the Internet Assigned Numbers Authority (IANA), headed by Dr Jon Postel of the Information Sciences Institute (ISI) at the University of Southern California. It assigns a unique "IP" (Internet Protocol) number to every computer that 'serves' on the Internet.

The green paper proposes that the US government would gradually transfer existing IANA functions, the root system and the appropriate databases to a new not-for-profit corporation. "This transition would commence as soon as possible, with operational responsibility moved to the new entity by September 30, 1998," suggests the US government in its green paper.

"The US government would participate in policy oversight to assure stability until the new corporation is established and stable, phasing out as soon as possible and, in no event, later than September 30, 2000. The US Department of Commerce will co-ordinate the US government policy role. In proposing these dates, we are trying to balance concerns about a premature US government exit that turns the domain name system over to a new and untested entity against the concern that the US government will never relinquish its current management role."

Additionally, the paper suggests that the new corporation will have its headquarters in the US and be incorporated under US law as a not-for-profit corporation. The paper says that it will, however, have and report to a board of directors from around the world.

According to Stefano Micossi, director general for industry at the European Commission, this approach is causing concern among Europeans. "Although the Internet was developed in the US and initially strongly supported by the US government, it has now become a truly global resource," he says.

'There are now three times as many new web addresses being registered in Europe than in the US. The future of Internet domain name governance must reflect this reality, he adds. This should not be regarded as a purely US-led process, dealt with under a domestic rule-making process with tight deadlines.

"The EU is in favour of strengthening the role of international organisations, such is Wipo and the ITU, as a way of ensuring greater transparency and adequate representation of different regions and user-groups," says Mr Micossi.

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EUROPEAN TELECENTRES • By Geoffrey Nairn

Showcases for remote working

Telecentres in rural areas are enthusiastically supported by the European Union to encourage regional development

Hidden in the foothills of northern Spain's Basque Country lies the Encartaciones region where little seems to have changed since the Middle Ages, when pilgrims tramped the nearby Pilgrim Route to Santiago de Compostela.

Centuries later, the Encartaciones area is poised to enter the information age with a 'telecentre' project designed to encourage badly-needed high-tech jobs and demonstrate the benefits of IT in rural areas. The telecentre opened last April in the village of Gordexola, 20 kilometres south of Bilbao. It aims to serve 30,000 inhabitants scattered in farmhouses and villages through the Encartaciones area, offering training to teleworkers, IT services to local businesses and, hopefully, creating high-tech employment in a region which, despite its bucolic charm, has suffered decades of economic decline and neglect.

"Our aim is to pass directly from the 19th to 21st centuries," says Alejandro Artetxe, director of the telecentre, which is based in the village's former school. A telecentre aims to provide a half-way house between autonomous teleworking and a traditional workplace.

Typically located in rural areas, telecentres allow local businesses and individuals to use high-speed networks and computer equipment they could not normally afford, and to benefit from support and training.

The Gordexola centre has trained 100 local people in its first year. Mr Artetxe believes training is essential to raise the awareness of IT in a population whose lives traditionally revolve around farming.

Telecentres are enthusiastically promoted by regional governments and Brussels bureaucrats as a high-tech solution to the decades-old problem of regional underdevelopment and the inexorable drift from the countryside to the cities. The IT industry has long been a big fan of telecentres as they provide a perfect showcase for latest "remote working" technologies, such as Integrated Services Digital Networks and videoconferencing.

Alejandro Artetxe, telecentre director: he firmly supports a commercial approach

Telephone companies, in particular, are often sponsors of telecentres. Alan Denbigh, executive director of the UK's Telework, Telecottage and Telecentre Association, believes the availability of advanced yet affordable technological infrastructure is crucial to the success of telecentres. Rural regions have traditionally been the last to be linked to mobile telephone and ISDN networks, for *example, although this situation* is changing.

The high cost of telecommunications services is another problem for telecentres. Mr Denbigh says only 20 of the 155 telecentres in the UK have ISDN access and blames BT, the UK's dominant operator, whose rates for installing and renting an ISDN line are higher than those in other European countries.

"Unless they have a good reason to want to use ISDN, most people do not go for it," he says.

The European Commission analysed the experiences of early telecentres in its Advanced Communications for Cohesion and Regional Development (Accorde) teleworking project. According to the Accorde report, many telecentres are conceived as tools of regional development policy, rather than as commercial enterprises. Because of this, they often lack focus and fail to cater for the real needs of the local economy.

The potential for independent funding is often over-estimated, the report found, so when the subsidies are removed, many telecentres cannot survive. Regional policy in Norway has long supported advanced communications to link its remote areas and the Finnmark region in the north of the country was one of the areas examined by Accorde.

Five telecentres had been set up in Finnmark to overcome various local problems: lack of office space, little appreciation of computers and telecommunications, low levels of training and education. The telecentres were meant to create jobs and encourage an IT-based economy. However, all but one of the centres had closed when the Accorde report was written in 1996 and the most common reason was their failure to add value to local skills.

The EC concluded in its Accorde report that telecentres can perform a number of successful functions if they are well-researched and focused, if users are involved and if a reasonable timescale is allowed.

Alejandro Artetxe has visited several telecentres across Europe and knows some of the problems they face. Even though his Gordexola centre is jointly funded by the local council and EC until 2000, he decided at the outset to run the centre as a commercial endeavour to reduce the shock when the subsidies end.

In the heart of a Spanish farming community of 30,000 people: the telecentre at Gordexola, 20 kms south of Bilbao. The telecentre offers training to teleworkers and small businesses in the region

"The telecentre is not designed to be a meeting place for the local unemployed," he says. Anyone with a serious idea can use the facilities of the Gordexola telecentre free of charge for six months. After that, however, they must pay a monthly rent if they want to retain their cubicle in the telecentre and continue using its services, which include 12 computers, ISDN videotelephony and high-speed Internet access via a dedicated 256 kilobit-a-second link.

The centre has been open for less than a year and only four people have so far taken cubicle space in the telecentre. Their ideas range from using the Internet to sell information about surface coatings to architects, to providing tailor-made weather forecasts for local farmers.

None of the four users has passed the six-month milestone so Mr Artetxe is unsure how their various ideas will fair once they have to start paying the rent. The same issue affects the Gordexola centre itself. Telecentres cannot hope to survive if they just offer the standard mix of training, equipment rental and support, he believes.

"Telecentres have to offer services that are better, faster or cheaper than conventional businesses. If they cannot then they will not survive," he says. The centre thus aims to build a database with details on 100 skilled teleworkers from the Encartaciones area that can take on a range of high-tech jobs.

Mr Artetxe has high hopes that the Internet will generate new opportunities for the centre and he wants to offer web design, multimedia and Internet services to businesses in nearby Bilbao.

WORKING FROM HOME • By Geoffrey Wheelwright

Users face a bewildering choice of equipment

Teleworkers increasingly require easy and secure access to office networks. plus fax and voicemail facilities

Whether you *call it* teleworking, 'hot desking' or tele-*commuting*, the trend towards encouraging people to work from home is undoubtedly on the increase.

According to the Gartner Group, the IT research organisation, more than 30m US and 20m European workers will be teleworkers by the year 2000. And one of the greatest challenges facing each of them is having the right equipment and software tools to do their jobs.

These include high-speed network connections to the *office, software to properly* synchronise data between the office network and the *remote desktop and ways to* provide better support to teleworkers.

All of these are vital components to effective teleworking and hot desking (where people work from home part of the time and share a 'hot desk' at their office the rest of the time).

One of the leading personal computer software companies serving this market is Symantec Corporation, which sells products that allow users to remotely *access faxes, electronic* – as well as 'remotely control' other PCs to retrieve data *and carry out technical sup*port assessment.

Symantec believes there *are three leading tools*-related issues facing teleworkers.

□ *The company suggests*, firstly, that remote workers need easy and secure access to the office network, helpdesk facilities, faxing and voicemail facilities.

□ Secondly, they need protection from viruses, crashes and unauthorised access.

□ Finally, Symantec says that managers of teleworking employees often complain that they have problems supervising and monitoring the productivity remote workers. Monitoring products can be provided by a number of products, including Symantec's own 'pcAnywhere' 8.0 software.

Symantec says this latest version of pcAnywhere provides higher levels of security than was previously possible during remote communication sessions by using Microsoft's Crypto API encryption.

In addition, pcAnywhere 8.0 includes support for the Windows NT 4.0 operating system that is increasingly *being used on corporate* networks.

The new version of pcAnywhere, which has long been

> New software allows managers to monitor productivity

a popular remote access tool, also gains utility by having its 'caller security' feature integrated into the Windows NT 'User Manager'. This integration means that remote users only need their network password to begin a remote session in a com*pletely secure environment*. Without the need for separate passwords after log*ging-on, Symantec says that* network supervisors should find it easier to install the *software across the network*.

Finally, Symantec says the new 'voice first/data switching support' feature should make pcAnywhere a better tool for technical support. This feature allows users to switch between voice and remote control sessions during a single phone call using standard data or fax modems.

Users will, however, need officially certified ASVD and *DSVD modems for* use with pcAnywhere to support simultaneous voice and *remote control sessions*.

Symantec is by no means the only company offering such *tools and services. For* example, AT&T, the telecommunications giant, is offering a service called AT&T Virtual Workplace that integrates portable voice, fax and e-mail messaging, telephony and intranet tools for *"as little as £50 per month"*.

AT&T is currently only offering this service in the UK. *The company says that* users of the service can go through one AT&T 'national *rate' 0870 phone number and* AT&T's call centre to retrieve or re-direct e-mail, faxes and voice messages via a PC, laptop or palmtop computer, as well a telephone/mobile facility.

The service is also being promoted as a way to allow users to remotely access their office-based computer files and documents. There is also a 'team diary' facility to book meetings with colleagues and customers, access the Internet and intranets, and "reap the benefits of an intelligent telephony service" that allows phone to be redirected to a specified number.

AT&T says its Virtual Workplace service is also not limited to use on desktop and notebook computers. In addition to being available for Windows 95-based PCs, AT&T is also offering it for use with handheld systems such as the 3Com/US Robotics Palm Pilot, Microsoft Windows CE-based handheld computer and Psion hand held systems.

The company also claims *to be a real believer in* 'eating its own pet food' and has about 1,000 of its 2,500 UK employees operating as teleworkers and mobile staff that use the AT&T Virtual Workplace service.

While both of the latter offerings deal with broad issues around teleworking and remote access, there are also cases where very specific solutions must be found to issues that are unique for teleworkers. One of these is how you provide high-speed data access through Integrated Service Digital Network (ISDN) phone lines for notebook computer users.

The US-based communications company, Digi International, has addressed thus issue in its recent release of an "analogue dongle" *for* its ISDN PC Card, the Digi DataFire GO! combo card. This enhancement to the card, which was released in February, fits in any stan*dard PC-card slot on a note*book computer and allows IBM-compatible and Macintosh laptop users to use conventional analogue telephone lines as well as ISDN lines for their remote connections.

The company says that having both the ISDN and the analogue dongle, laptop users now have the choice between digital or analogue over ISDN remote connections – this way the user can phone into the network where ever he or she is *located*.

In this way, users can easily switch between ISDN and *V.34 operation over ISDN* without installing a different PC-card, or restarting the PC-card, says Digi International.

FLEXIBLE WORKING

Alternative to commuting

From page 15:

which do away with divisive hierarchies and office politics; reduced office overheads; *fewer cars on the* road, making less pollution, and so on...

So why are so many in the Europe *still* wending our weary way to the office every *Monday* morning? Why aren't they all telecommuting to work from rural idylls, or even palm beaches, away from traffic jams, late trains, and fatty, staff canteens?

Despite earlier forecasts from respected research companies that Britain would have 3.5m teleworkers by 1996, there are still *only around 1.5m* using computers and communications to work remotely. Yet there is *no doubt that today*, the spread of PCs and improved telecoms not only make it possible *for Britons* to work from home but has the potential to change many *jobs so that they can* be done anywhere without physical contact with other people.

Boundaries

Technology has blurred the old home/work boundaries. So why isn't everybody teleworking? Is it just a myth too good to come true?

"It's not a myth, it's just that we're *still* at the experimental stage. But there is some evidence to suggest it *is taking off," says* Alan Denbigh, executive director of the UK Telework, Telecottage and Telecentre Association (TCA).

"The trouble is, teleworking was oversold, early on," he says. "Initial forecasts were misleading since they tended to count the kind of jobs suited to teleworking without taking into account the necessary changes required in the economy, corporate cultures and social pressures.

"But the UK is leading Europe in this sector, apart from Scandinavia, and we've seen a doubling of the number of teleworkers in the last five years."

Already, companies such as British Gas, Barclays and Xerox are saving up to £1,000 a head *every year* in office costs by equipping staff with PCs and links to *central systems and switch*boards so they can work from home or while out on *the road*.

IT and management companies, including IBM, Andersen Consulting and Digital Equipment, have hot-desking schemes, in which home-based staff book office facilities for the day or two a week that they go in to the main offices.

Across most of Europe, people commute like automatons to the office, their second home, dreaming of taking control of their lives and working to live.

But there's hope. The Telework Platform claims *that* in 10 years' time teleworking will be the norm in the UK, just as computers *have come to be taken for* granted.

Whether this will happen because of political will, employer enlightenment or staff pressure is a moot point. More likely the drop in the birth rate, the escalating skills shortages to feed a service-based economy, and crippling city centre property prices will force teleworking on to the agenda and then gather staff-support.

"By 2005, 25 per cent of companies expect that more *than half their office space* will support *team* activity, rather than individuals," says John Lane, *director of* IT at Pagoda Associates, the business change consultancy. "Offices will exist primarily to provide corporate identity and occasional social interaction."

Roll on the day...

□ *The writer, Lindsay Nicolle is editor of 'Corporate Networks'*

CeBIT 98 AT HANNOVER, GERMANY • By Paul Taylor

Small is beautiful at the world's largest IT show

Around 670,000 visitors attended CeBIT last month confirming the Hannover-based information technology show as the world's largest IT extravaganza. But despite the sheer size of the show, which attracted a record 7,000 exhibiting companies, it was some of the smallest digital machines, the handheld PCs, *intelligent telephones and* Internet communications devices that once again, *stole the limelight*.

For an increasingly mobile and flexible workforce, these *devices hold the promise of* ubiquitous 'anywhere, anytime, anyhow' connectivity, and the gains in productivity originally promised by the first generation of 'personal digital assistants' such as Apple Computer's Newton MessagePad.

"The growth of the handheld computing market is being driven by the transformation of the corporate environment into an extended, virtual enterprise – supported by a highly mobile, geographically dispersed workforce requiring fast, easy remote access to networked resources and electronic communications," says 3Com.

Ironically, just as Apple was pulling the plug on the ill-fated Newton six years after it was launched, a new batch of cheaper, easier to use and more powerful handheld computers were on display at CeBIT. These ranged from full-function computers such as Psion's Series 5 and a handful of new machines built around the latest version of Microsoft's Windows CE operating system, to 3Com's pen-driven Palm-Pilot – which sold a million units last year – and Franklin's credit-card sized Rolodex Rex.

Other machines such as Nokia's pioneering Communicator 9000 and Sharp's super-stylish MC-G1, launched at CeBIT this year, blur the distinction between handheld PCs and portable telephones by combining both functions in one unit.

The renewed flurry of activity in the handheld PC market is evident in figures from International Data Corporation, the market research group. From an estimated 3m handheld units shipped worldwide in 1997, IDC forecasts a jump to 13m a year in 2001.

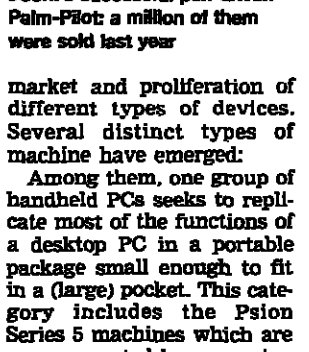
The renewed interest in the handheld computer market reflects several factors including the growing sophistication of end-uses, *particularly in the corporate* market and the widespread adoption of digital telephony which has made users familiar with many of the advantages of handheld technology.

Electronic mail

At the same time, the explosion of interest in electronic mail and the web has made it more important for *corporate* users in particular to be able to access their e-mail and corporate intra*nets while on the move*.

Fortunately, these market changes have coincided with *advances in microprocessor* design and silicon integration which have increased the power *and functionality* of the second generation of handheld PCs, while reducing their cost. The latest *handheld PCs are typically* powered by Risc (reduced instruction set computing) *chips from* Cambridge-based Advanced Research Machines, Mips, the Silicon *Graphics subsidiary*, or Japanese chipmakers, such as Hitachi and NEC.

At the same time, manufacturers have begun to segment the market and to build machines that answer specific user-requirements. This has resulted in the rapid fragmentation of the market and proliferation of different types of devices. Several distinct types of machine have emerged:



3Com's successful pen-driven Palm-Pilot: a million of them were sold last year

Among them, one group of handheld PCs seeks to replicate most of the functions of a desktop PC in a portable package small enough to fit in a (large) pocket. This category includes the Psion Series 5 machines which are now supported by a growing library of business software packages and the latest Windows CE machines.

In both cases, they include software that enables the user to transfer files to and from a desktop using a serial cable. While the Psion machine wins plaudits for its ease of use, keyboard and battery life, Microsoft's entry into the market with the CE operating system has helped 'legitimise' the handheld computing market.

While the Psion 5 includes a proprietary card slot and serial interface connector, CE machines, some of which now feature large colour screens, include standard PC-Card slots enabling modems and other standard peripheral devices to be attached – although battery life is reduced dramatically as a result.

Microsoft has also licenced the CE operating system for use in so-called Palm PCs. The first of these machines, which are around the size of *a pack of playing cards and* have no keyboard, were on display at CeBIT. Machines *such as the Casio A10 will* compete directly with the highly successful PalmPilot, *the latest version of which* was also launched at CeBIT.

3Com's Palm-Pilot does not pretend to have the same *computing abilities as the* Psion or CE machines. Instead, its emphasis is on its light weight, *ease of use* and close integration with desktop data. For example, contact *lists* and diary appointments can be sychronised with a desktop by simply dropping the *Pilot* in a docking 'cradle'.

"The Palm III [the latest version of the PalmPilot] is positioned as an extention of your PC, not as a replacement," says Marc Bercom, vice-president of 3Com's Palm Computing unit. 3Com has responded to the threat posed by Microsoft's Palm PC with developments of its own. It is working with some 3,500 software developers writing new programmes using Palm OS, the PalmPilot's own operating system, and it has announced partnerships with other manufacturers.

Two of these partners, IBM and Symbol Technologies, were displaying new products at CeBIT. IBM's Workpad is a PalmPilot look-alike aimed at the corporate market while Symbol Technologies was showing a ruggedised version of the Palm III equipped with barcode scanning an wireless networking capabilities.

Delivering wireless connectivity to handheld devices is still an area of division within the nascent handheld market. While companies such as Psion and 3Com have chosen to address this by providing either add-on devices, or software and cables to link to separate mobile telephones, other companies have sought to integrate mobile communications into their handheld devices. Understandably, the leaders in this field have come from the telecoms sector, rather than the PC industry.

*Thus, Nokia's Communica*tor was two years ahead of most of its rivals and only now are companies such as Sharp and Philips catching up with devices that combine both mobile telephone and handheld PC technology into one unit.

Smart phones

As the worlds of computing and communications collide, more 'smart' or 'intelligent' phones capable of downloading e-mail, sending a fax or browsing the web are likely to emerge.

Similarly, more sophisticated means of transferring data from standard notebook PCs are beginning to emerge. For example, Nokia, Ericsson and Motorola have all developed wireless GSM Phonecards which slot into portable's PC Card slots removing the need for a separate GSM phone entirely.

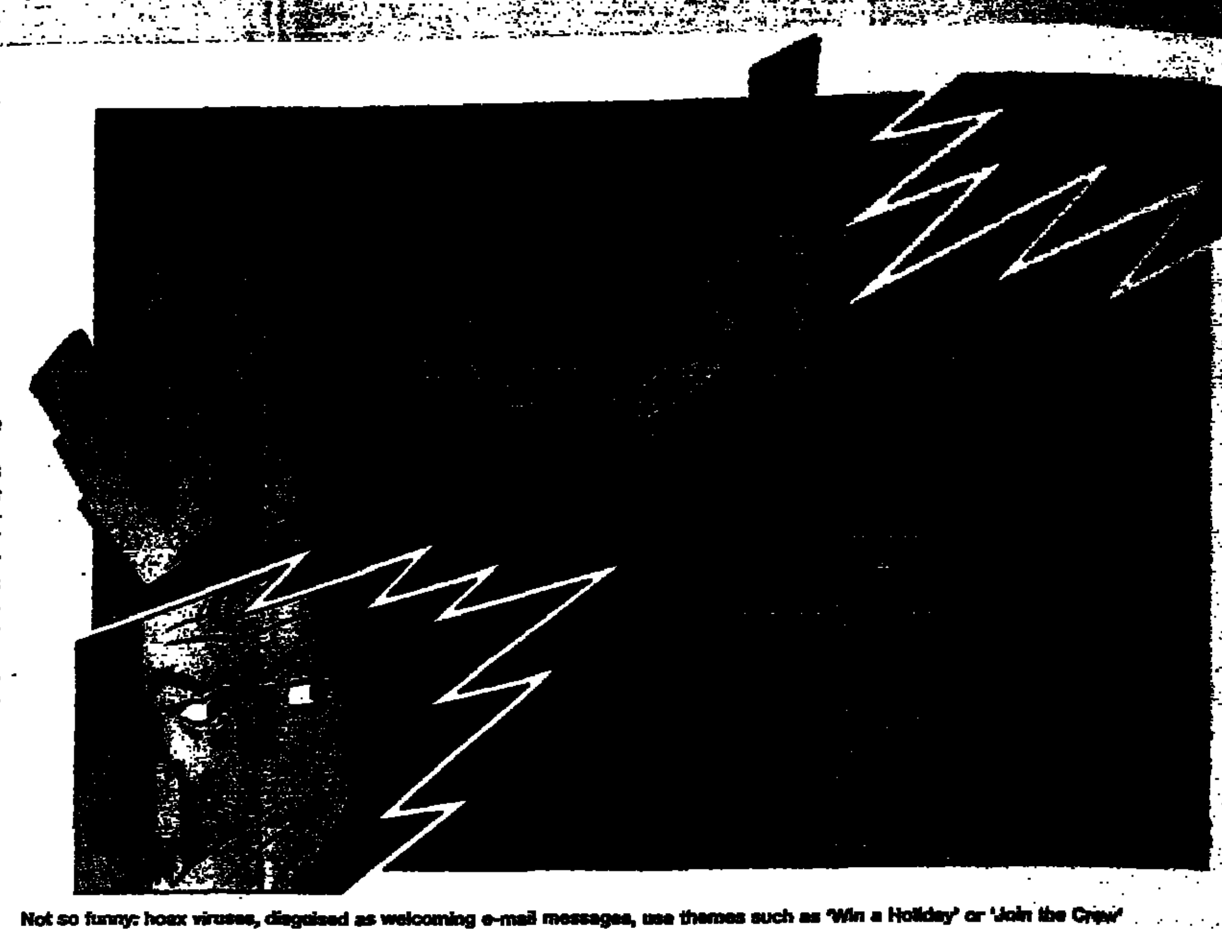
The final segment of the hand-held market consists of devices such as Franklin's Rex3 which was also launched in Europe at CeBIT but which has been a huge and surprising success in the US since it was introduced in November. The Rex is designed to fit into a standard PC Card slot on a portable PC or a docking station connected to a desktop and has no separate input facility – it relies entirely on its host computer to download information.

The Rex can store up the details of up to 3,000 contacts or appointments in a device no bigger than a handful of business cards. For some users, it seems this is the ideal travelling companion and no doubt there will be imitators by the time CeBIT 1999 opens in March next year.

THE MACROVIRUS MENACE • By Christopher Price

Anti-virus industry steps up the fight

While there are 18,000 known strains of computer viruses, the number being discovered each month has doubled in the past 18 months. Now the software industry is intensifying its efforts to combat the problem



Not so funny: hoax viruses, disguised as welcoming e-mail messages, use themes such as 'Win a Holiday' or 'Join the Crew'

Today, like every other day, an average of 20 viruses will be unleashed on the world's computers by mischievous individuals.

While most will be quickly detected and prevented from spreading by anti-virus software, a few will prove themselves more resistant than the rest.

The CAP virus is among these. The world's most prevalent computer virus, it is widely believed to have been written by a 15-year old Venezuelan boy.

This is hardly surprising – adolescent boys, often from second and third world countries, have always been held responsible for the production of the corrupted programmes that can wreak havoc in other people's computers. However, what has caused consternation in the computer industry has been the speed at which the CAP virus, which was written only about a year ago, has already spread around the world.

CAP was responsible for more than a fifth of all reported virus incidences in the month of January this year, according to *Virus Bulletin*, the anti-virus industry newsletter. The second most prevalent virus managed a mere 6 per cent.

Its rapid spread is due to two significant developments in the computer industry. The first has been the emergence of the Internet. This has allowed the more speedy and widespread delivery of viruses via e-mail attachments – as well as making both viruses, and virus information, available for downloading by potential users.

The second has been the widespread adoption of software which uses 'macro' commands – in particular, Microsoft Office. Macros are sets of instructions within a program and have proved an easy target for virus writers. Microsoft software is used in around 80 per cent of the world's personal computers, and widely in business.

CAP is a 'macrovirus', as are three others in the *Virus Bulletin* top ten. In the past 18 months, the proliferation of these has led to more than double the number of new viruses being discovered each month – the figure now stands at around 500.

"Macroviruses are *the* big problem for the computer industry," says Geoff Leary, chief executive of Dr Solomon's, Europe's biggest anti-virus software group.

Macro was designed to be easy to write, so virus writers have found it easy to corrupt. Virus writing was hardly rocket science before. It's certainly easier now, he says – and adds that the task has been helped immeasurably by the Internet.

Traditionally, viruses have been spread via floppy discs. This is still widespread, but has been swiftly overtaken by the emergence of macroviruses. And the Internet is not just facilitating the more rapid spread of viruses as a means of delivery. A quick browse of the World Wide Web reveals a mountain of information not only on viruses, but *also* of help to any potential virus writers.

The Internet has made many viruses freely available for downloading, says Sarah Gordon, an anti-virus researcher for IBM, based at the group's research centre in New York. "It has also made the issue more acceptable for people to get involved. Virus writing is no longer an 'underground' activity."

Ms Gordon, who has been studying viruses and writers for several years, says this, in turn, has led to a change in the profile of the perpetrators. "It's no longer just adolescent boys – girls are doing it, too, and the age range varies from 10 to 45."

Neither are the writers confined to eastern Europe or other less-developed countries. "They are just as likely to come from America or western Europe," adds Ms Gordon. The Internet has also spawned another development: hoax viruses. Many come disguised as e-mail with welcoming titles such as 'Win A Holiday' and 'Join the Crew'.

"Hoaxes confuse people and this can lead to complacency about the real thing," says Graham Cluley, technical director at Dr Solomon's. "They have become a big problem for the industry." Some industry specialists estimate that around half the software problems identified by organisations and individuals and referred to anti-virus groups every month are hoaxes.

Even so, the sharp increase in real viruses is *forcing the anti-virus industry* – which already successfully tackles some 18,000 known strains – *to* develop more sophisticated techniques to deal with the escalating situation.

One method that the dozen or so anti-virus groups have always employed has been in the sharing of information. There are monthly meetings between the groups' technicians who swap information on new viruses – although stopping short of necessarily giving each other solutions.

As well as sharing information, the companies also keep an eye on the virus writers. "They hold conferences, both on the Net, and on the ground," says Mr Cluley, "so we do occasionally have a chance to talk to them."

Ms Gordon would like to see schools include virus prevention in their curriculums. She also believes that Internet service providers should also take a more responsible attitude in allowing virus writers to advertise their skills.

The situation is not helped by the law. In most countries, writing or sending a computer virus are not crimes. Some have laws against causing deliberate damage to someone else's computer, but this is very difficult to prove. Indeed, in the UK only one person has ever been convicted of causing damage by a virus, and he, according *to one* anti-virus company executive, "was very, very unlucky".

However, the anti-virus industry is fighting back. Mr Cluley says the challenge for the industry is to develop more sophisticated, but unobtrusive, software which would protect against current viruses, but also automatically be updated against new strains.

This is one route being pursued by IBM, which has developed an Internet-based software product which Steve White, senior research manager, says "will take us further down the road *to* virus elimination."

The software will contain a search engine which will be alerted to not only all known viruses, but any computer code it believes to contain irregularities and which could be a yet unknown virus. This information would then be automatically relayed via the Internet to IBM's anti-viral research centre where an identification of the suspect programme would be carried out.

IBM intends to launch its "immune system for cyberspace", later this year.

Nick Fitzgerald, editor of *Virus Bulletin*, says that IBM is probably 12 to 18 months ahead of the competition, with its latest development. But he believes that the industry will never achieve the total elimination of computer viruses. "IBM's solution is feasible for between 80 and 90 per cent of suspicious viruses, but there will always be some that go undetected.

"Two and a half years' ago, for example, no-one knew about macroviruses."

April 1 - a trigger date for virus writers

As the first day of April is reknowned for practical jokes, it will come as little surprise to find virus writers using today's date as a trigger for their disruptive payloads.

Take the 'Cesfour.A' virus, for example. A macrovirus, it will delete all a computer's sub-directories on the C-drive, when attempting to save a file on April 1. It will also delete the Command.Com file.

A hint as to who is responsible appears if the user has saved a file and then views the C:Partition file, which will probably read 'C4 by Karl'.

Another macrovirus is the MDMA.A, F or G. It attacks when a document is closed on April 1 by deleting the files *.HLP in the C:Windows directory, among other damaging manoeuvres.

German readers should beware the 'Clock' viruses, which come in several strains and are particularly virulent. They are often triggered on specific dates, with April 1 not surprisingly a favourite among its perpetrators. During the initial seconds of starting up a computer and opening a Word document, the virus attacks the 'file' or 'save as' function.

Clock, Cesfour.A and the MDMA strains have been identified and can be combated with the appropriate anti-virus software.

But what of 'Penpal Greetings' and 'Join the Crew', electronic mail which have a habit of appearing at this time of year? Aptly, they are not viruses at all, but hoaxes. Many computer users will get them, but few are likely to see the joke.

NEW FT-IT RESEARCH

The changing role of the IT director

The important changes that have taken place in the 1990s in the role of the chief information officer (CIO) and IT director within companies, are being examined in a special research project being jointly undertaken by the Financial Times and Korn/Ferry International Executive Search and Selection Consultants.

The results of the independent research, which is being carried out among CIOs and IT directors from the among the world's top 500 companies in the US, the UK, Germany and France, will be reported in the June edition of the FT-IT Review.

The findings will throw new light on the accountability and responsibilities of IT directors, including their spending powers, their skills and professional backgrounds.

The research will also try to *find out* how much influence IT directors feel they exert across the business, and with their fellow board members, and whether they are acquiring a more strategic company-wide role, which will lead to chief information officers soon beginning to move routinely into chief executive officers' jobs.

Other questions will focus on the technological directions they believe are likely to prevail, or will be most important, to their companies in the next century, and on the Year 2000 problem and how it is affecting other IT initiatives, and in particular spending.

Topics in forthcoming issues of the FT-IT Review

☐ The next issue of the monthly review will be on Wednesday, May 6. The main theme will be digital broadcasting. The issue will also feature developments in transport telematics, plus a *focus on IT in training*.

Net.gain magazine

☐ On May 27, Net.gain magazine, a new FT guide to online business and electronic commerce, will be published with the FT. Net.gain will also feature winning websites from the *FT Business Web Site of the Year* competition, plus details of the next competition, sponsored by UUNET.

June review

☐ The June 3 FT-IT review will include a main focus on new IT development in the retail sector.

Since June is the month of football's World Cup, there will also be a special focus on IT in sport – looking not only at football, but a wide range of other sporting events that involve an increasing use of IT.

July review

☐ The issue on Wednesday, July 1 will have a main theme of IT in finance, with special sections of accounting software and developments in smartcard technologies. (There is no FT-IT Review in August).

September review

☐ The issue of Wednesday, September 3, will have a main focus of logistics and the supply chain. Other sections will examine the latest sales and marketing software systems; plus developments in Internet Protocol (IP) telephony, including voice and video on corporate networks.

☐ For an editorial synopsis (published two months in advance of each issue) and other details about the FT-IT Review, plus Net.gain magazine, please see the main information panel on page three of this current issue, plus details of the fax-u-back information service in the panel, below.

FT IT

FT Review of Information Technology Fax-U-Back service

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